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NEW SERIES. VOL. I. | JULY, 1877. | No. 7.

Original Communications.

Wounds of the Heart.

A CASE REPORTED TO THE DETROIT ACADEMY OF MEDICINE BY DR. C. C. YEMANS.

On May 31st, at about 3 P. M., John Burns, æt. about 27, Irish, partially insane, attempted self-murder by stabbing himself over the region of the heart. I saw the patient five minutes after the injury, and found him in the following condition: Cyanotic, pulseless, no appreciable heart beat, stertorous respiration—simulating epilepsy, and nearly comatose. I ordered him placed on a stretcher and removed to hall. Five minutes later the patient's symptoms were much the same. By auscultation I detected hæmorrhage, either from parenchyma of lung or heart; respiration still labored, and the patient was apparently dying from syncope. I gave ammonia by inhalation without much effect. I concluded to try the stimulating effects of pain, and proceeded slowly to stitch up the wounds of the throat (the man also attempted to cut his throat). This caused him to react to a certain extent. I then directed the attend-

ants to lift him to upright position, having put in twenty stitches, leaving wounds in thorax open and unprobed. In lifting him hæmorrhage to the amount of nearly a pint followed from open wounds. Placing him again on his back, I for the first time detected the heart beat; the heart, as I thought, having been paralysed, either from pressure-hydrostatic or wound of substance, or both combined. To relieve the first, I left the wounds open for one hour, and dissected to intercostal muscles to learn if some superficial artery was not severed. At 4.30 P. M. hæmorrhage had nearly ceased and air passed in aud out of the open wound with every respiration. I closed the wound, and applied cold compresses. At 6 P. M. radial pulse was discernable, heart beat stronger, respiration easier.

Auscultation revealed that hæmorrhage had taken place into the pleural cavity. The percussion note was dull over the posterior infra-axillary region. Left patient on stretcher, fearing to move him, and with no hope of finding him alive on my morning call, I took my departure.

June 1st, 7 A. M., pulse 100 and feeble, he had suffered very little from pain during the night; no blood was expectorated, and I might say here, once for all, that he never complained of pain or spat up blood during his illness. At 6 P. M., pulse 107; still feeble, but great turbulency of the heart's action and throbbing of the carotids. Area of the dulness increasing. Dr. Munson saw the patient at this time; temp., 103.7; respiration, 40; pulse at 6.40 P. M., 120. The absence of inhibitory action was accounted for by pressure from hæmorrhage, or from heart wound, or both. Dulness was attributed to hæmorrhage, owing to absence of tubular respiration, and absence of a sufficient degree of febrile action to indicate pneumonitis.

June 2, 7 A. M., pulse, 96, respiration, 30; 4 P. M., pulse, 124, respiratisn, 40. Area of dulness increasing; severe hæmorrhage from wound. June 3, 9 A. M., pulse, 84, respiration, 30, temperature, 102°; 6 P. M., pulse, 88, respiration, 32. Record does not vary until the 9th, when patient's appetite failed, later in the day vomiting occurred followed by hæmor-

rhage from wound. Dr. Munson, with whom I left patient, as I was from the city, diagnosed wound of diaphragm. This was verified at the autopsy. June 9th, 7 A. M., pulse, 146, respiration, 45; dulness over entire left thorax; no tubular respiration—diagnosis, effusion; death anticipated soon. Dejections were passed in bed; ordered sponge bath and clean bed. About 1.30 P. M., Hospital steward going to door leading to veranda with bucket and sponge, was seized by patient, and patient leaaed over the banister to pavement, fifty feet below, breaking his neck, and nearly carrying the nurse with him. This is the end of a most interesting case. The following report of the autopsy was written by Dr. Munson, at my request:

Through the courtesy of Dr. Yemans I was present at the autopsy of John Burns, who so tragically ended his career at the House of Correction on Saturday, June 9th. The autopsy was made in presence of Mr. Webster, deputy Superintendent of the house, Coroner Wilson, Dr. Yemans and myself. Inspection revealed three wounds, all of which, with the aid of a probe, were found to penetrate into the pleural cavity. They were about a half an inch in length, and were made with a pocket knife, the blade of which was nearly three inches long half an inch in width. Whether the stabs were made with the right or left hand is not known. The general direction of the stabs was from without, obliquely downwards, backwards and to the right. The upper wound—the one from which the greatest amount of hæmorrhage took place at the time of injury, and subsequently on the third, eighth and ninth days—was located between the fourth and fifth ribs, about half an inch inside of the nipple and three inches from the median line. The middle cut was between the fifth and sixth ribs, and half an inch nearer the median line. The lower one passed through near the union of the cartilages of the sixth and seventh ribs. This stab, we found, had slightly injured the diaphragm. An incision was then made from the upper extremity of the sternum to the umbilicus, the skin carefully reflected, the cartilages cut through at their junction with the ribs and removed with the sternum. The left lung was completely collapsed, and the

pleural cavity full of dark, uncoagulated blood, which was carefully removed with a sponge. The lung and pleura were deeply stained, and organized lymph was found on their surfaces. The right lung was healthy, excepting slight congestion of the posterior part of the upper lobe. We then made an incision through the pericardium on the right side, and carefully turned it from the heart. Two cuts had been made through it, corresponding with the upper and middle ones through the chest walls. There were two wounds in the heart, both in the left side. The lower one was in the apex; it had partially healed over, but was still plainly discernible; the upper one—situated about half way between the apex and the auricle—seemed to communicate with the ventricular cavity, as a probe passed in readily half an inch or more. This wound was plugged with a clot, and a thin, quite firmly adherent layer of lymph had been effused for an inch or more upwards and backwards from the margin of the wound. The liver, stomach and intestines were very pale, or anæmic, otherwise healthy. We did not lay open the cavities of the heart at the autopsy, but did so Tuesday evening, June 12th, before the members of the Detroit Academy of Medicine, when it was found that the knife had penetrated the cavity, making a clean cut through the ventricular wall.

Fermentation.—Are the Zymotic Diseases Fermentatious?

BY J. S. CAULKINS, M. D., THORNEVILLE, MICH.

The writer of this communication would observe as introductory, that the interest that the practical physician, as distinguished from the mere scientist, will feel in a paper on the subject of fermentation, arises from the light which its study throws on the pathology of a class of diseases second to none in importance, namely the Zymotic diseases.

Typhoid fever, scarlet fever, dysentery and diphtheria are topics of pre-eminent interest to the philanthropic physician,

since we have as yet no prophylactic against them as we have against small pox, and no specific for them as we have for ague.

In the past, the treatment of these diseases has been tentative and empirical, and necessarily so, for the reason that their causes were unknown—in the future, a day will come when their treatment will be specific and rational; but that day can not arrive till study has made us acquainted with these causes and their conditions.

The present is the transition period. We see clearly the nature of these causes (possibly know one or two) and the search for the rest is pushed forward with industry and zeal.

Most organic bodies are subject to a molecular change, by which they either acquire new properties, or are split up into several new substances, which molecular change we call fermentation.

Fermentation belongs partly to chemistry and partly to biology, the chemical reactions being believed to be the work of living miscroscopical organisms belonging to the natural order of fungi.

There are many fermentations, each organic substance having one peculiar to itself, but the process in every case is essentially the same or similar. To state the case as plainly as possible, we may say, that each organic substance is liable to the attack of a microphyte which finds in it the conditions which constitute an appropriate nidus for its proliferation.

The spores of these fungi are in the atmosphere, and are so abundant that no organic substance can be, even for a short time, exposed to the air, without being infected by them sufficiently to cause its peculiar fermentation under proper conditions of heat and moisture; and the process will not stop here for some of its derivatives will prove the appropriate nidus for other spores, and a second fermentation will follow the first. The derivatives of this second fermentation will in turn be found to be the nidus of other spores, and this process never stops till the original organic substance is resolved into water, carbon dioxide and mineral salts.

Several of these fermentations, especially the alcoholic, the

acetous, the lactic acid, and the putrefactive, have been well studied and their microphytes are known; others are almost wholly unknown. The best understood of all these is the alcoholic, and (since every family has a family resemblance, and the fermentations constitute a well-marked family), it will serve our purpose as a type of the process in general, and we can make use of its phenomena to illustrate and explain those of fermentation in disease.

The family resemblance which is the most striking, and which we shall make the most use of in explaining some of the phenomena of the contagious diseases, consists in the fact, that in every fermentation, some of the derivatives are volatile. If it does not give rise to any such volatile or odoriferous product it must be quite unimportant. Generally speaking, you can easily find when a fermentation is going on, if you cannot see it, you can smell it.

It will be best before going on with this discussion to glance briefly at the grounds for the belief which has been stated; for truth and candor compel us to admit that the doctrine is comparatively new—that Liebig denied it, and that it is doubted by many at the present time.

Is the physiological doctrine of fermentation fact or theory? If it be only theory, what other theory is its rival?* In searching for answers to these questions, if it be proved that the relation of the yeast plant to the alcoholic fermentation is one of cause and effect, it may be fairly assumed that the other fermentations bear the same relation to their accompanying microphytes; that it is the mycoderma that turns alcohol to vinegar; that it is the vibrio that turns milk sour; that it is the bacterium that makes the albumoids putrify, and so on through the rest of the series. By the same process of reasoning we shall be warranted, if we can show that the zymotic diseases bear the essential marks of fermentation, in assuming that they are caused by miscrophytes.

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*Those questions are argued in the April number of the *Popular Science Monthly*, by a writer (Prof. Canniff, of Toronto,) who decides that the doctrine of the agency of microphytes is not proved, and that fermentation is purely a chemical process.

The substance, beer yeast, which seems to be the central point of attack and defence in this contest, has been known to the human race since the pre-historic period. It is highly probable that it was used by our Aryan ancestors, as leaven to make bread to eat and beer to drink, in their original home in Asia, before they began their westward migrations. It is thought by some to have been known in the early Egyptian civilization, but if so, it is strange that the children of Israel did not carry the knowledge with them in their exodus. There is no mention of beer in their Scriptures, unless it is comprehended under the term wine, which is probably not the case, since wine is called red, and frequently mentioned in connection with the grape, but never with barley. The leaven which is frequently spoken of, was undoubtedly sour dough. Perhaps the reason that beer is not mentioned in the Hebrew scriptures is, that the art of making it was lost during the wanderings in the wilderness where there were no materials for the manufacture. So it would seem, from a passage in Plinius, that the Romans lost the art and relearned it from the Gauls.

During the dark ages, the use of fermented drinks made of grain, fruits, or honey became very extensive and has increased to the present time.

The ancients had some singular and absurd notions concerning leaven, but were obliged to notice its capacity to impart its own condition to other substances, and there were among them from time to time advanced minds that saw that the process was analogous to the reproductive power of animals and vegetables; but this remained conjecture with them, for the reason that they had no microscopes.

The microscope is little more than 200 years old, and it is nearly so long ago that Leeuwenhoek discovered the cells of yeast. It is strange that he did not reach the conclusion that they were alive, since he must have seen them bud and grow, but it did not occur to him that the phenomenon was vital. For the next 150 years no one thought to observe the cells of yeast through the microscope, and the discovery that they are

living organisms has been made within the memory of some of us, in 1835 by Latour and Schwann.

Berzilius died in the disbelief of the doctrine, and Liebig, though he admitted, with a bad grace that it might be true, denied stoutly that it had anything to do with fermentation.

The labors of Pasteur, as much as those of any one man have thrown light on the functions of the yeast cell, and it was with him that Liebig with all his energy and ability carried on the sharpest controversy. He (Liebig) adopted the old doctrine of Stahl, the author of .the the theory of phlogiston which held such undisputed sway in the world for more than a hundred years. Stahl thought that fermentation was motion, (which is true in a sense), that the particles of the ferment being in a state of motion, were capable of imparting that motion to the particles of the fermentable substances, which (being a mixture of salt, sulphur, oil and earth) were easily set in motion by the motion of the ferment. This theory of motion was re-modeled by Liebig. He held that all ferments were albuminous substances in a state of decomposition and that their particles being in a state of molecular motion, were capable of impressing that motion on the particles of substances with which they were brought into contact. This seems to us irrational enough, and it is strange that Liebig should have been so infatuated with the idea.

It is still stranger that Berzelius should have been satisfied with his own explanation of fermentation. Rejecting equally the modern physiological doctrine and Liebig's molecular motion, he taught that the phenomena were caused by a *catalytic* force, (whatever that is), resident in the yeast. This theory and that of Liebig are conspicuous examples of explaining the unknown by the unknown. Pasteur is perhaps the most eminent advocate of the physiological doctrine of fermentation, and his candid and philosophical position, appealing to future investigation to prove the truth of his opinions, is in striking contrast to the whimsical quiddities of Berzelius, and the laborious mistakes of Liebig.

What we are to do now is to briefly canvass the arguments

for and against the necessary agency of the torula in the alcoholic fermentation. If it is proved that the conversion of the sugar into alcohol and carbonic acid is really the work of the microphyte, we will conclude by a parity of reasoning that the other fermentations are the work of their accompanying microphytes, and will conclude further, that every fermentation has its microphyte, although yet undiscovered.

The arguments pro and con are these :

(*a*) Fermentation with the formation of alcohol is accompanied by growth and reproduction of the torula. This alone proves nothing, for as the writer mentioned in the marginal note, says, it may be cause or it may be consequence. As he puts it, chemical forces make the soil in which germs take root and grow. It is alleged against the agency of the torula in the production of alcohol, that they will grow in sweetened water, and not produce any, if supplied with oxygen in sufficient quantity and certain salts, but this argument works the other way. It makes it probable that it is the torula that breaks up the molecule of sugar to get at its oxygen to support its respiration when heating material becomes scanty. While well supplied with air, it could assimilate what sugar it needed for its growth, without injury to the rest; deprived of it, it attacks the sugar to get the element of respiration. Losing part of its oxygen, the sugar tumbles to pieces like an arch whose keystone is withdrawn.

(*b*) It is shown by Ludersdorf, that if the cells of the torula were broken down, fermentation was not produced after the yeast was mixed with sacharine solutions. On the chemical theory no plausible explanation can be given of this fact; on the physiological theory the explanation is plain.

(*c*) It was shown by Dumas that the thin parts of the ferment had no effect on the fermentable substance, and that contact with the torula cell was necessary.

(*d*) Fermentation can be stopped at any stage by sufficient heat to kill the torula, and by various vegetable and mineral substances, which are capable of acting as poisons to it.

(*e*) The foregoing might seem to be enough for the champions of the chemical theory to dispose of, but here is the final and unanswerable argument: a portion of the sugar in the fermenting substance disappears, being used by the fungus to support its growth. This proves that the initiative step in fermentation is the attack of the torula on the molecule of sugar. Any other conceivable hypothesis would make the fungus live on the products of fermentation, which it cannot do.

The point is believed to be fully sustained that the alcoholic fermentation is only another name for the work of the yeast fungus in breaking up the sugar molecule, carrying with it the postulate that every fermentation has a fungus for its cause. In many cases the fungus is yet to be discovered, if not too small for the microscope to reach.

We are coming now to the point of greatest interest to the practical man, that is the application of what we have just learned to diseases; but we must first enquire if we really have a place to apply it. Is the doctrine that the zymoses are fermentatious certainly true, or is it a bit of scientific romance?* Let us see what we ought to believe on this point, and in doing so will glance first at what we can learn without the aid of the microscope by comparing the phenomena of these diseases with those of fermentation.

What then are these similar phenomena?

1st. We have in both a stage of incubation.

2d. The capacity of reproduction.

3d. Specificity and fixity of type.

4th. The power of conferring sterility on second exposure to their action.

5th. Susceptibility to destruction by the same agents, physical or chemical.

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*I am not unaware of the fact that many opponents of the "germ theory" admit that the contagious diseases are fermentations in the sense that they attach to the term. The use of the word zymosis as a generic name is a tacit admission of this, and all parties seem agreed to use the term in this sense. The question as it stands in the text, means, are they fermentations according to the physiological theory of fermentation.

These resemblances, if they lack anything of establishing a common ordinal character for fermentations and contagious diseases, we complemented by the revelations of the microscope. Whatever scepticsm we may feel on the question of the identification of the typhoid and scarlet fever fungi, we can have none concerning the cause of the rinderpest.

This contagious disease, to whose attack the human as well as the bovine race is liable, has been proved by Cohn and Koch to be the work of a microscopical fungus. Their experiments, on which the above conclusion is based, are so numerous and varied that there is no room to doubt its correctness.

Some objector may ask, "admit all this, that the cause of this one contagious disease is a microphyte, is that fact sufficient proof that the rest have similar causes?" Confidence in the uniformity of the processes of nature (the basis of all our knowledge) enables us to answer this query affirmatively.

The relations of the whole class of contagious diseases to one another are such, that whatever is proved true of the origin of one of them must apply in a similar manner to the rest.

From the facts then in the case of the rinderpest, the deduction which the future will doubtless specifically prove true, may confidently be made, that *every contagious disease is essentially a fermentation.*

Having reached this conclusion let us revert to what I called the point of greatest interest to the practical man, the application to zymotic disease of the rules that guide us in dealing with fermentations.

The case presents the two plain indications of

1st. How to hinder the fermentation from beginning,
2nd. How to stop it after it begins.

Unfortunately not very much can be said on either point, for as yet our methods are imperfect as to the first, and in embryo as to the second. Of course the way to prevent a fermentation is to keep the ferment out of the fermentable matter. In this case the ferment is the zymotic virus proliferated in its nidus, the blood of the sick, and escaped into the atmosphere,

and the fermentable matter is the fluid in the blood vessels of the unprotected well. Obviously the way to accomplish the indication is, by the use of germicides, to kill the cells of the virus (or their spores) as fast as they escape from their hotbed into the atmosphere.

In accomplishing this object, the appliances with which we are already acquainted are affective to some extent, and good use can be made of them, by keeping an atmosphere of disinfection around the sick; but Nature's method must be the best, and it becomes us to study diligently till we find what that method is. It is very certain that she has one by which she destroys the vitality of the poison of every zymosis soon after getting into the air,* otherwise there would be a constant accumulation of the different poisons in the atmosphere, that would in the end make the earth uninhabitable. The agent that Nature uses to kill the floating cells of the zymotic fungi must be either the actinic rays of sunlight or oxygen gas in its condensed and active form of ozone. Our plain duty is in the case, to study to find out her true *modus facundi*, and having found, to imitate it. As to the second indication, the stopping of the fermentation, it can be done only by killing the ferment in the blood, and as already observed our methods of accomplishing this are yet in embeyo. The internal use of certain germicides has been recommended, as for instance the bi-sulphites; but it is difficult to get them down fast enough. It takes a large quantity to disinfect 18 or 20 pounds of blood. Quinine has been proposed, and perhaps is the best we have, but a similar remark can be made of it, there being danger that the necessary large amount will produce toxic effects. Perhaps Wade's method with hydrobromic acid may obviate these dangers and it ought to be well tried.

The writer proposes to employ for this indication inhalations of ozone, and at the same time to flood the system by way of

*This is the general law. In some cases, especially in scarlet fever and the rinderpest, the virus hides away for an indefinite time from the agencies that usually effect its destruction. In such cases it is believed that it is the spores, and not the full,grown cells that escape, seeds being much less perishable than their parent plant.

absorption through the alimentary canal, with a solution of the gas in water, *having found that such a solution will hinder the developement of infusoria in fermentable liquids.*

Perhaps a solution of the gas in oil of turpentine diluted with some blander oil, and used by way of inunction, would be useful to disinfect the skin, especially in scarlet fever; of which disease, that which Koch found to be true of the riderpest is probably also true; namely, that its microphyte is a spore producing fungus with a double contagium, a fugitive one resident in the cells of the fungus, and a more permanent one resident in its spores, making it peculiarly necessary to disinfect the skin, since it is to that and the clothing in contact with it, that the spores coming through it with its secretion, would the longest cling. Whether any efficacy inheres in the above proposed treatment, let its trial in the future answer. If there is none we must look farther, nature seldom gives up her secrets till she is sternly interrogated.

Reference has been made to the fact, as explanatory of some things in zymotic disease, that volatile, generally odoriferous products are formed in all fermentations. These gaseous matters are poisonous as far as known, for instance in yeast fermentation the gas evolved is carbonic acid as it used to be called, in the acetous it is hydrogen, in the fermentation of urea it is carbonate of ammonia, in the putrefaction, or fermentation of the albuminoids it is sulphhydric acid and other unknown and not sweet smelling substances. What a light might it not throw on the pathology of the zymoses, if we know what the gases are that are formed during the fermentation in the blood? We have all observed that in some epidemics, notably in Asiatic cholera and in scarlet fever, there will be cases in which a fatal result soon follows the attack of the disease, long before the usual causes that extinguish life can act, before indeed any appreciable lesions take place; there having been cases in which death has followed the attack of cholera in five or six hours, and that of scarlet fever in less than twenty-four. There will be occasionally a case of small pox that will die before the eruption appears, at least two such having come under my own notice.

When diphtheria first made its appearance in this part of Michigan, there were among the earliest cases, some that died in less than two days after the attack; and in the epidemic of cerebro-spinal meningitis of 1848, the first case proved so rapidly fatal, that the man's boots were not removed from his feet till after he was dead. It has been common, especially in cholera, to attribute the result in such rapidly fatal cases to fright, and undoubtedly it is in many instances an important factor, but that it is an insufficient explanation of all is obvious, as for instance in such as occur in infancy, and in a first case like that mentioned above.

The proportion of pernicious cases, it has been noticed is larger at the inception and outbreak of an epidemic than during its subsequent stages. The laity futilely think that this is because the doctors get to understand the disease better. The true explanation it is most likely, connects itself with what seems to be a general law in vegetation, that under equally favorable circumstances, the heaviest crops are produced from seed bought from a distance, while repeated plantings in the same locality deteriorate the produce. This explains why it is that in the first cases of an epidemic, the fermentation is so tumultuous, that the evolved gases cannot escape as fast as they are generated, and consequently accumulate in the blood and kill by poisoning the nervous centres. It may be asked if chemistry knows of any gases that are capable of producing such effects, providing they were set free in the blood, and if any probable theory for their formation can be given. One such at least is known. Carbonic oxide is capable of producing such effects; it will kill when inhaled in very minute quantities, and the theory of its fermentation in the blood is sufficiently intelligible.

The method of its formation would be, by the breaking up of the molecule of carbonic acid, through the agency of the microphyte of the disease, in the same way that the yeast plant breaks up the molecule of sugar, and for the same reason, to get oxygen to sustain its respiration. There are infusoria known that get their oxygen from carbonic acid; the vibrio does. The result may be accomplished in two ways, in one of which the micro-

phyte may take part of the oxygen from the carbonic acid, and leave the oxide—CO^2—O=CO. or the microphyte may take the whole of the oxygen and only carbon would be left, which on coming in contact with oxygen might unite directly with it to form CO. As far as we know yet, when carbon and oxygen unite they always form CO^2, but the former exists in so many states that we cannot predicate of it that it will always do so. It is very likely that in some of its states and in a nuscent condition, it will unite with oxygen in equal equivalents to form CO.*

Perhaps, when science has resolved disease into its ultimate factors, it may be found that there is no more important one in all pestilences than this deadly gas, carbonic oxide. In reply to the question, some pages back "what is it that is the rival of the physiological theory" the answer is that the one deserving of the most attention, is that which holds that zymotic disease is caused by poisons engendered by the decay of organic matter, the chemical theory. There are objections to this theory that seem insuperable. It does not account for the reproductive power and specificity of disease. How can a chemical poison reproduce itself in the system of the poisoned or elsewhere. The annals of chemistry give us no history of a case in which a poison reproduced itself, and it is incredible. As far as we know, reproductive power is solely a function of organization and life. The most plausible and ingenious view on this side of the question, that I remember to have read, is presented in the "Report of the Michigan State Board of Health, 1875, by the Secretary of the Board, H. B. Baker, in a paper on the reproduction of disease germs. He admits the formation in the blood, in zymotic diseases, of definitely constituted particles of matter that reproduce the disease, but advances the idea that the process instead of being a physiological genesis, may be analogous to that of crystalization, as when in a saturated solution of a salt, the introduction of a crystal of that salt produces a

*That carbon exists in more states than we know and with different affinities, appears from the fact that Schutgenberger has recently made from the carbon in cast iron, a carbo-hydrate in which the oxygen and hydrogen are in the proportion to form water. Synthetic chemistry has never been able to hydrate carbon in any of its known states.

crop of similar crystals; and the conclusion is sought to be drawn, that the "reproduction of bodies having similar forms and qualities is not proof of the presence of life." The point is well taken, the saturated solution is the albuminoid fluids of the blood, the introduced crystal is the minute speck of albuminoid which constitutes the virus of some disease, the reasoning is ingenious but not conclusive. The use of the term reproduction in the case is hardly allowable, since a gravel stone dropped into the solution might be as efficacious as a crystal of the dissolved salt, and so might be a sudden jar on the side of the containing vessel. The proper term then by which to express the formation of crystals is production instead of reproduction. Reproductive force in the sense that the physiologist understands it, is not only proof of the presence of life, but is solely a function of life.

In the foregoing remarks no reference is intended to be made to the action of the soluble ferments (so called) by which nutritive matters are changed in form as starch to sugar, sugar to fat, albumen to albuminose, etc. These processes are not (that we know) fermentations and physiology has yet to learn their causes.

Our legitimate conclusions are these:

1st. All fermentation is caused by the presence and agency of organisms in the fermentable matters.

2nd. The contagious diseases are fermentations, and the organisms or these spores that cause them are recepted into the system from without.

3rd. Only a few of these are yet known, the rest all must be discovered as soon as may be, if not beyond the reach of the microscope.

4th. Following closely the discovery of the organisms of disease, we may hope to see that of the germicides to kill them, either before or after they get lodgement in the human system.

5th. And consequently, the ultimate stamping out and total disappearance of the zymotic diseases.

Abscess of the Cornea.

BY EUGENE SMITH, M. D., DETROIT, OPHTHALMIC AND AURAL SURGEON TO ST. MARY'S HOSPITAL.

Few diseases of the eye cause such variable degrees of sensibility as the different forms of suppurative corneitis. Some are accompanied with the most intense pains and are exquisitely sensitive to the touch, while others, notwithstanding the amount of purulent matter secreted, do not cause the least suffering. We sometimes see cases where pains, the most severe, precede the developement of a little insignificant circumscribed abscess; they disappear when the abscess is formed only to reappear and precede the production of new collections of pus.

At times the attacks of pain assume an intermittent character. Unquestionably there exists a reciprocal relation between the intensity of the pain, the intolerance of light and the circumcorneal injection.

Two forms are recognized by ophthalmic surgeons; one accompanied by more or less intense inflammatory symptoms; the other unattended by pain or symptoms of inflammation and insidious in its march. The first or sthenic form usually begins with pain of an excruciating character, lachrymation, intolerance of light and a conjunctival injection particularly marked around the cornea—pericorneal. That portion of the conjunctiva immediately surrounding the cornea (the limbus conjunctivalis) is many times swollen. An examination of the cornea shows one or more whitish spots, either in the centre of the cornea or towards its border. If several points exist, they may coalesce and form one large abscess; it is very seldom, however, that more than half the cornea is involved. The abscess may be situated superficially or deep in the lamellæ of the cornea, and the gravity of the case depends to a great extent upon this fact. Serious complications also are apt to depend on the depth and extent of abscess. Thus a superficial abscess of slight extent may progress towards resolution with but little trouble, whereas the generation of a mass of purulent elements at a considerable depth, easily gives place to partial or total destruction of the cornea, either by ulceration or by producing an indelible opacity.

Pus in the anterior chamber (hypopion), and iritis are the most frequent complications. When the disease commences with great intensity, the inflammation may extend to the deeper structures of the eye and cause suppuration of the entire organ. This termination is rare and happens only in cases enfeebled by long sickness or after violent injury to the cornea.

The second form, the asthenic, is characterized by the almost complete absence of inflammatory symptoms. In children, frequently following the exanthemata and in persons debilitated by grave diseases, diabetes, etc., we may see appear on the cornea a yellow point which slowly extends and which is accompanied with but a faint rose-color of the conjunctiva at the periphery of the cornea, near the point of the abscess (if the latter be situated near the border), and encircling the cornea of the ab scess is located at its centre. There is no intolerance of light, no lachrymation and no pain. The march is insidious and indicates a tendency to spread, as well in depth as in extent. Occasionally the spread of disease is surprisingly rapid, and once the deep layers are affected the iris becomes implicated, a hypopion forms and the trouble may extend to the deeper structures of the eye and determine the atrophy of the organ. The disease does not, however, always terminate so destructively. When it takes a more favorable course, it assumes either spontaneously or as a result of judicious treatment, a sthenic character. A greyish annulus forms around the abscess, the organ becomes very sensitive to the light and the touch, the circumcorneal redness appears and the abscess loses slowly its yellowish hue; if an ulcer has formed, the epithelial layer soon forms, the parts become quite vascular and the cure follows, more or less opacity remaining at the seat of the abscess.

The most frequent causes of suppurative corneitis are probably conjunctival inflammations; and the chief danger, in fact, of conjunctival inflammations, particularly the purulent forms, is suppuration of the cornea.

That form of suppurative inflammation of the cornea known as neuro-paralytic, and which is occasioned by lesion of the 5th pair, I shall not consider in this paper.

The ætiology of the asthenic variety is obscure. I have purposely avoided the consideration of the disease as it appears after operations, the presence of foreign bodies, chemical injuries, etc. preferring to confine myself to the idiopathic per se.

The treatment of the sthenic type of the disease must be antiphlogistic leeches to the temple, mercury internally, and mercurial frictions to the forehead and temple, atropine instillations, etc. It is very evident that this form of treatment will not answer for the asthenic variety. In the indolent type of the disease a treatment must be adopted which has for its aim the production of a congestion favorable to the nutritive functions and the immediate effect of which is to modify or stop the developement of the disease. It consists in the employment of hot compresses, which should be kept on from half an hour, two or three times a day, to all day, and even part of the night if necessary, according to the effect of it upon the abscess; it should be stopped as soon as the abscess is encircled by a greyish zone and vessels spring up in the cornea.

Too much cannot be said against the employment of caustics and astringents, such as nitrate of silver, sulphate of zinc, tannin, etc., in the treatment of suppurative keratitis. They may be carefully used at the period of decline of the disease, but even then they are not devoid of danger, even in experienced hands. An excellent means of checking the rapid progress of extensive abscess of the cornea, is to diminish the tension of this membrane by a paracentesis of the anterior chamber. This may be done at the periphery of the cornea, or as is sometimes preferable in the most dependent portion of the abscess. Sometimes when the inflammatory symptoms have nearly disappeared, the abscess becomes, as it were, stationary. Under such circumstances, paracentesis and the application of the pressure bandage, many times have a most happy effect. The surgical treatment of absess of the cornea, may give very good results regarding the reparation and transparency of this membrane; but we must not lose sight of the fact that it is not within the reach of every practitioner, and requires for its proper and successful use, a special study and a special experience.

Abstracts from Virchow's Archives.

PREPARED FOR THE DETROIT MEDICAL JOURNAL BY H. P. V. PETERSHAUSEN, A.M., M.D., PH. D.

IV.—*On the healing of Corneal Wounds.* (*Dr. Hans von Wyss, Zurich, Vol. 69, Jan,* 1877.

The author studied the events following wounds of the cornea of different animals caused by a cut. He found that the margins of a not penetrating cut in the cornea become completely united during the first day by newly formed epithelium. In case the epithelium in the neighborhood of the wound was removed, it regenerates during the first day, and as soon as all is reproduced around the wound the latter closes as if there was no epithelium wanting. The consistence of this primary closure is considerable.

Somewhat different is the healing of a penetrating cut. The wound is filled up by epithelium at least to two-thirds of its depth, and only its deepest parts, near the Membr. Descem., are filled up by fibrine precipitated from the regenerated aqueous humor which generates from the vessels of the iris after injury to the cornea.

The cellular elements of the proper substance of the cornea do not contribute to the union of the wound in the course of the first days. An inflammation of the cornea is not a necessary sequence of a simple cut, but occurs always on account of accidental irritation, and then it hinders the wound from proper healing. During the later stages of the healing mode there are found a great number of spindle shaped bodies arranged parallel near the wound. They are connected with voluminous proliferating corpuscles of the cornea. The author thinks it probable that their prolongations are directly connected with the fibres that then fill the cicatrix, though he could not trace

them so far. The epithelial elements disappear at last in the scar by atrophy, which is caused by the growth of the fibres.

The doctor is of opinion that the great proliferation of the epithelium must be considered as a peculiarity of the cornea. From this reason he does not admit that the healing mode of other regions is the same as the one of the cornea.

V.—*On the Accumulation of White Blood Corpuscles in the cortical portion of the Brain* (*Charles, Duke of Bavaria, M.D., Vol.* 69, *Jan.* 1877.)

Pohoff observed that in typhoid fever and in typhus there may be found in the brain white blood corpuscles not only in the neighborhood of ganglion cells, but even in their substance, in which case they might cause a division of the nuclei of those cells. These facts might be considered an anatomical base for the brain symptoms in those diseases in case they should be confirmed. The Prince examined about fifty brains to contest Popoff's observations. Among this number there were two from healthy persons beheaded on account of being convicts, twenty-two were from persons deceased in all stages of typhoid fever, and others were from persons who died by pneumonia, meningitis, nephritis, general fatty degeneration, etc.

The result of his examination was, that in the cortical portion of every brain there are found numerous white blood corpuscles. In general they may accumulate on account of a retarded circulation combined with an increase of the quantity of water in the brain.

Among the localities where the corpuscles are deposited the author noticed the ganglion cells around which one, three, and sometimes even six or eight were placed. But they never penetrate the substance of those cells, and do, of course, not cause a division of their nuclei. Besides, there were found corpuscles in the perivascular spaces of His, in Robins' adventitial canals, and in the periganglionary spaces. The latter are considered by the author as lymph spaces, connected next with His' spaces. The brain symptoms do not depend upon the

presence or enlarged number of the white blood corpuscles, nor upon the retarded circulation, nor lastly, upon the increased quantity of water in the brain (provided this comes on slowly), but must be considered as the expression of a sudden increase of these three agents. Of course, the fever and its causes must likewise be taken in consideration in that respect.

VI.—*On Septic and Micrococcic Injection.* (*Dr. A. v. Puky, of Buda, Pesth. Vol.* 69, *March,* 1877.)

The doctor's researches aimed at the solving of the question "if micrococci accompany always, or only in certain cases, septic injection." He used only rabbits for his experiments.

As the yolk of eggs is rich in globulinous substances, in which respect it resembles pus and the products of inflammation, there may be formed similar products by its decomposition. The putrid yolk was then brought into the organism, either by subcutaneous injection or by an injection into the jugular vein. For some experiments an emulsion was prepared from the fresh yolk, which was carefully preserved in clean vessels until putrefaction was noticed.

All organs of the expired animals were carefully examined, as well macro as microscopically. The yolk masses were at certain periods likewise examined and it was always found that they contained, fat drops, fat cells, fat crystals, vibriones, and fine corpuscles and granules having the character of micro-organism.

The author found :

1. That the fresh yolk injected had no effect upon the animals.

2. That the injection of the putrid yolk had a much stronger effect when made into the vessels than if made subcutaneously. In case the yolk had an acid reaction, death followed several times during or soon after the injection, while death followed not so often in case of a more neutral reaction. Poisoning was caused in these cases even without the simultaneous growth of micrococci. The putrid yolk must, therefore,

contain substances that act like common poisons, and it is not always necessary that in cases of putrid infection the micrococci present in the putrid substance must be absorbed. Moreover, it will be evident that putrid substances may cause poisoning in men if organic substances undergo putrefaction on them.

3. That the putrid yolk lost its poisoning power when it was boiled for an hour or longer.

The author found further that an injection of the emulsion of the putrid yolk was followed by putrid poisoning, if it was only several days old, and that the vegetation of micrococci followed if the preparation had several weeks time to putrify. In this case the original acid reaction of the emulsion loses its strength, in consequence of which the development of micrococci is favored. Besides, micrococci are only generated in the animal if the yolk had undergone putrefaction as an emulsion, but not if the emulsion was prepared from the putrid yolk.

VII.—*The Influence of High Temperatures on the Body.* (*Dr. M. Litten, of Berlin. Vol.* 70, *May*, 1877.)

The author selected for his experiments the adults of Guinea pigs, as the younger ones often have fatty infiltrated organs, and for this reason he excluded likewise rabbits and dogs, which have also normally more fat in their organs than Guinea pigs. He brought the animals in a box in which the temperature of the air could be constantly kept at 94 to 97° F, or even at 102 to 104° F. The effect of a longer presence in such a box upon the animals consists, not in an increase of their normal temperature. The changes never missed after the animal had been kept at least thirty-six to forty eight hours in the box, and subsequently expired were fatty infiltrations resp. degenerations of a number of organs of a pathological nature, i. e., they surpassed by far the physiological infiltrations.

The earliest period after which this change could be noticed was thirty-six hours. The liver showed always the first symptoms of it, reminding of the human fat liver. Next there followed the heart and the kidneys; of the latter, especially, the

epithelium was fatty infiltrated, beginning with the tubuli contorti. At about the same time (two to three days) the respiratory muscles became attacked. The vessels were in most cases only partly degenerated (vessels of plexus horoideus, of pia and the coronary arteries). In the brain and medulla there was no change found. Besides numerous little hæmorrhagiæ the lungs appear to be intact. The blood contained almost constantly crystals in great number, and irregular, colorless flakes, covered by nuclei and fat drops, and identical with those found in acute infectious diseases (typhoid fever, recurrent fever).

As to the chemical changes going on in the body under the influence of increased temperature there was observed by several experimenters an excretion of more urea while less carbonic acid was exhaled. But the Dr. found that the quantity of carbonic acid is at first enlarged and then decreases. The decrease must be sought for in a less lively taking up of oxygen caused by deeper alterations in the organs that transport this gas. Among such organs the red blood corpuscles play a prominent part. They may be dissolved, get disintegrated and smaller. A. Schmidt found no oxygen in the blood from the heart of Guinea pigs, which expired in consequence of high temperatures and were examined immediately after death. The want of oxygen is followed by an abnormal disintegration of albumen, decreased exhalation of carbonic acid, and fatty degenerations in the different organs.

Based upon his experiences the author thinks that in fevers of man the fatty degenerations are effected by the abnormally raised temperature. In case that fatty degenerations of parenchymatous organs are found at the same time, they do not depend directly upon the higher temperature, but upon unknown causes (specific infections), or they are of a cadaverous nature. The Dr. never found such changes as the results of even high temperatures (113° F.) in the course of a few hours. Should fatty degeneration of the heart be found in case of heat stroke, it might have already existed before, and only hastened the fatal end.

Reports of Societies.

American Medical Association—Twenty-eighth Annual Meeting.

CHICAGO, June 5th, 1877.

The Convention assembled in Farwell Hall, and promptly at 11 o'clock was called to order by the retiring president, Dr. J. Marion Sims. After touching upon the history of the Association and what it had achieved in the past in a few brief complimentary words, he introduced the new president, Dr. H. Bowditch, of Massachusetts, who, in greeting the members, thanked them for the honor which they had conferred upon him, and hoped that the meetings would be harmonious and profitable ones.

God's blessing was then invoked in favor of the Association by the Rev. William L. Harris, D.D., LL. D.

Dr. N. S. Davis, as chairman of the Committee on Ar rangements, gave the delegates a cordial welcome to the city, reviewed in brief terms the antiquity of the profession, glanced at the history of the Association, and hoped, in conclusion, that the delegates would carry on the work of the profession even more vigorously, more nobly, and more successfully than they had done in the past, and that these annual greetings would continue while the country endured and as long as time should last.

The report on credentials of members was now submitted, members, by invitation, were received, vice-presidents were invited to the stand, permanent members were elected, letters of regret from absentees were read and the order of exercises of the meetings as published was explained.

Dr. Bowditch, the president, then delivered the annual address. He called attention to the facts that the meetings had now greatly changed in character from the time when the roll call consisted of only seventy-six names; that the very num-

ber of the delegates was an impediment to the transaction of business; that the by-laws for the reception of papers and the conduct of debates permitted those afflicted with the "cacœthes scribendi or loquendi" to bore the members, and that the meetings were too infrequent. He made the following recommendations, in favor of which he gave cogent reasons: 1. More frequent meetings should be held, and the assembled body should be smaller. 2. No paper should be published until it has been submitted to and approved by experts in the particular subject treated, the experts being governed by the rule that no paper should be deemed worthy of publication which did not contain something new to medical science, or which did not present such an analysis or such a new or lucid arrangement of facts already wholly or in part known as to greatly aid the profession. 3. That a special committee be appointed to lay out the programme of work and to select the ablest men to prepare papers upon the topics with which they were most familiar (this would not, however, exclude volunteer papers). 4. Every member of a state society should become a permanent member of this Association. 5. Representation should be made smaller by allowing only one delegate from a society for every twenty or thirty of its members, instead of one for every ten. 6. That the question of the union of the Canadian and American Medical Associations be referred to a joint committee of the two bodies, which shall report at some subsequent meeting. 7. That the question of the revision of the American Pharmacopœia be referred to the Judicial Council.

After a vote of thanks had been tendered to the president for his interesting address, and the latter ordered to be published, the recommendations contained in the paper were referred to a special committee of seven.

Papers were now received and referred to appropriate committees, after which the general meeting adjourned until to-morrow morning.

WEDNESDAY, June 6th, 1877.

The second day's session (business meeting) commenced at 9.30 this A. M., president Bowditch presiding. Numerous communications, invitations, etc., were received and referred to the proper committees.

Dr. Brodie, chairman of the special committee to consider the suggestions contained in the president's address, reported practically that there was no necessiiy for them, and that the Association could get along without making the proposed changes if the chairmen of the sections and the committees performed their work more faithfully. The motion to adopt the report was laid upon the table.

But a short time remaining of the hour which had been allotted to Dr. E. R. Squibb for the reading of his paper on "The Revision of the United States Pharmacopœia" on motion it was extended to 11 o'clock. The time expired, however, before the conclusion of the paper, and Dr. Davis, the chairman of the Committee of Arrangements, was called upon to appoint another time for Dr. Squibb to finish the subject.

The latter gentleman's paper was followed by the report of Dr. P. G. Robinson, of Missouri, chairman of the section of Practical Medicine, who mentioned various subjects known to all readers of any ordinary medical journal, as, the source of contagion of typhoid fever, the use of strychnine in rabies canina, the employment of salicin and salicylic acid in rheumatism, the additions to the materia medica, etc. The report was referred to the publication committee.

An adjournment of ten minutes here ensued, in order that the state delegations might select their member for the "Committee on Nominations." The Michigan delegates selected Dr. L. Connor.

On resuming business Dr. J. P. White, chairman of the section of Obstetrics, commenced his report upon that subject. He remarked that the formation of the American Gynæcological Society was an event worthy of note; that the work of Parry upon the subject of extra-uterine pregnancy was a master-piece; compared the statistics of the use of the forceps by celebrated

German, French and Irish accoucheurs; recommended the long and double curved instruments; finally exhibited and described his own forceps, which, in his opinion, combine all the advantages without any of the disadvantages of other instruments. The paper was referred to the Committee on Publication and the meeting adjourned.

THURSDAY, June 7th, 1877.

The meeting was called to order by president Bowditch at 9.30 A. M. Dr. Norman Bridge, chairman of the Registration Committee, announced the names of a number of persons lately enrolled, making the list of delegates present number 660. Dr. Davis reported numerous names as candidates for members by invitation and permanent members, and those thus proposed were declared elected.

The secretary stated that the only necrological reports received were those of Indiana, Maryland, Missouri, and U. S. A., and he moved that these be referred to the Committee on Publications, which was ordered.

The Committee on Prize Essay reported that but one essay had been presented to them in compliance with the by-laws, and they did not consider it entitled to the prize. He moved that the author of another essay, which had been handed in too late for examination, be allowed to withdraw his paper and present it the next year. The report was adopted and the required permission granted.

The Judicial Council, in the matter of the Arkansas State Medical Society and the Arkansas State Medical Association, which was decided in favor of the former last year, reported that no further action be taken and that the application for the admission of a delegate from the latter be refused. They also reported favorably on the admission of delegates from the Branch County Medical Society of Michigan, and against the admission of a delegate from the Hendricks County Medical Society. In the matter of the charges made by Dr. G. E. Frothingham against the Michigan State Medical Society and against Drs. Foster Pratt, of Kalamazoo, and G. K. Johnson, of Grand Rapids, they

reported that the charges had no bearing on the professional character of the defendants, and should therefore be dismissed. (See below.) All the reports were accepted.

The Committee on Publication reported that the late appearance of the volume of Transactions for 1876 (Vol. XVII) needed an explanation. The delay of a few months after the meeting is, of course, due the fact that the edition which it is proper to print cannot be arrived at except by means of answers to circulars sent to the members. As already frequently complained of, these circulars are not answered at all or only after a long delay. The committee, however, is profoundly convinced that the proceedings of the Association can be adequately reported by men of medical education alone, for every year a large mass of copy prepared by professional reporters has been undecipherable, and, of course, unfit to be put into the hands of the printer. Particularly is this true in the minutes of the sections. So markedly was this the case last year that, had it not been for the kind co-operation of several members who had attended the last session of the convention and who had participated in the discussions, the Committee on Publication would have been forced to eliminate paragraph after paragraph from the minutes. Under the circumstances the committee think that they can consistently claim the indulgence of the Association. Of Vol. XXVII, 1,250 copies were printed; 1,207 copies distributed to members, and forty-three copies are on hand. Of the prize essay 1,250 copies were printed, of which 1,067 have been distributed, leaving 183 on hand.

The treasurer reported that under the positive instructions of the Association, the prize essay has been published at a cost of some $6000. This unusual outlay, in addition to the volume of transactions, leaves the treasury in an exhausted condition, for it has given nine dollars in value to every member for five dollars received. After his twenty-two years of service, the treasurer thanked the Association for the confidence it had placed in him, and regretted that he could not leave a more abundant surplus (about $150). These two reports were referred to the Publication Committee.

The paper of Dr. E. M. Hunt, of New Jersey, chairman of the section of State Medicine and Public Hygiene, now followed. He believes that methods of prevention from other zymotic diseases by the use of the principle involved in vaccination may be devised by researches in that direction; deprecated the great want of sanitary science among physicians in general; praised the Edinburgh University for the attention and examination which it required from the medical student in that branch; urged upon all medical colleges to pay greater attention to the subject and to make its study a part of the college curriculum. The lecture was listened to with great interest, and was ordered referred to the appropriate section.

The secretary read the report of the librarian: 187 distinct titles, exclusive of transactions of societies, reports of hospitals, boards of health, and volumes of medical journals which have been already catalogued as distinct titles, have been added to the library; it now consists of 817 distinct titles, which comprehend, from a general estimate, about 2,034 volumes, inclusive of pamphlets. The report was referred to the Publication Committee.

Dr. E. R. Squibb then resumed the reading of his paper on the revision of the U. S. Pharmacopœia. In concluding, he said that the Association had three courses before it. The whole thing might be laid upon the table—this would be most acceptable to the speaker—or they might prepare a plan and offer it to the profession, allowing it to stand upon its merits; or, they might appoint, through the Nominating Committee, a committee of three to prepare a report for presentation at the meeting next year. He would be glad to listen to discussion, and he accordingly moved that the whole subject be laid upon the table. This original way of promoting discussion (a motion to lay upon the table not being debatable), did not by any means meet the approbation of many, and accordingly the motion was withdrawn.

The chairman of the Committee on Nominations offered a partial report, and the secretary read the following: For President, T. G. Richardson, Louisiana; Vice Presidents, J. P.

White, New York, Moses Gunn, Illinois, G. W. Russell, Connecticut, A. Dunlap, Ohio; Chairman of section of Medicine, Materia Medica and Physiology, A. L. Loomis, New York; Secretary, J. H. Etheridge, Illinois; Chairman of Section of Obstetrics and Diseases of Women and Children, E. W. Jenks, Detroit; Secretary, H. O. Marcy, Massachusetts; Chairman of Section of Surgery and Anatomy, H. H. Smith, Pennsylvania; Secretary, E. Z. Easly, Arkansas; Chairman section of Medical Jurisprudence, Chemistry and Psychology, W. Kempster, Wisconsin; Secretary, E. A. Hildreth, West Virginia; Chairman section of State Medicine and Public Hygiene, J. L. Cabell, Virginia; Secretary, A. J. Marsh, New Jersey. Next place of meeting, Buffalo, N. Y.; time, first Tuesday in June, 1878. The report was unanimously adopted.

Discussion on Dr. Squibbs' paper then commenced. Dr. H. C. Wood, of Philadelphia, spoke strongly in opposition to Dr. Squibb. Dr. Davis did likewise, but from an entirely different standpoint, and his motion for the indefinite postponement of the whole matter was carried by a large majority, and the meeting adjourned.

FRIDAY, June 8th, 1877.

Convention assembled at 9.30. Pres. Bowditch occupied the chair. Dr. Davis again presented the names of a few gentlemen as members by invitation and as permanent members. They were elected.

The secretary of the Association presented charges which had been made against the Michigan State Medical Society. Referred to the Judicial Council. (See below.)

The report concerning State Boards of Health shows that fifteen states have now established Boards as recommended. Report ordered filed.

Dr. Thomas M. Drysdale, of Philadelphia, was elected a delegate to foreign medical societies, and Clifton E. Wing, of Massachusetts, as delegate to the Canada Medical Society.

The secretary presented the minutes of the work of the Judicial Council. Ordered filed.

The receipt of minutes was also acknowledged from the sections on Obstetrics, State Medicine, Surgery and Anatomy, Medical Jurisprudence and the practice of Medicine.

The Nominating Committee presented the following further report: Assistant Secretary, E. W. Brush; Committee of Arrangements, T. F. Rochester, J. F. Miner, E. A. Barnes, C. C. Wyckoff, M. Folnele, W. C. Phelps, E. W. Brush, all of New York; Committee on Publication, W. B. Atkinson, F. M. Drysdale, A. Fricke, S. D. Gross, C. Wister, R. J. Dunglison, of Pennsylvania, W. Lee, of District of Columbia; Treasurer, R. J. Dunglison, of Pennsylvania; Librarian, W. Lee, District of Columbia; Committee on Library, Johnson Elliott, District of Columbia; Judicial Council, J. K. Bartlett, Wisconsin, T. F. Staples, Minnesota, E. Grissom, North Carolina, W. F. Robertson, S. Lilley, New Jersey, W. W. McPhutres, Wisconsin, A. T. Woodward, Vermont. The foregoing in place of the seven whose terms now expire by limitation. P. O. Hooper, Arkansas, in place of A. Dunlap, whose term expires in 1878. Committee on Prize Essays, E. M. Moore, F. Lothrop, W. Miner, A. R. Hopkins, E W. Dean. They were ail duly elected.

The report of Dr. J. J. Woodward and E. Seguin on the progress of uniformity in the means of observation and records of physic was submitted. There has been a cheering advance both in the official and technological aspects of the question. In concluding, they propose that the American Medical Association send special delegates to the International Medical Congress at Geneva, to advocate the adoption of a progressive uniformity of means of medical observation and records, with the concurrence, if possible, of the members of the Congress, who who will be found there engaged in advocating the application of uniformity in this and other departments of science. The Association adopted the conclusions of the report, and joined this committee to the regular committee to foreign medical societies, naming Dr. E. Seguin, of New York, president of the mixed delegation.

Dr. J. W. Singleton, of Paducah, Ky., offered in behalf of the Kentucky State Medical Society a number of resolutions for

the repeal of the tariff upon quinine, very similar to those passed by our State Medical Society. They were adopted amid much applause.

The Association passed resolutions regretting the ill health of its former president, Dr. G. B. Wood, and tendering him its condolence.

Dr. L. A. Sayre was accredited a delegate from the Association to the British Medical Association.

Dr. Bowditch, retiring temporarily from the chair, presented the following:

Resolved, That the Association recommends to the chairmen of the sections at any place at which we may hereafter meet, the propriety of obtaining from our ablest associates, in various parts of the country, papers to be presented to the sections, and that due notice of the names of the writers be given in the medical journals before the meeting.

Referred to special committee, composed of President Bowditch and Dr. Davis.

Dr. Woodward moved the adoption of the following resolution:

Resolved, That from this meeting and hereafter the practice of printing in the transactions of the Association the so-called verbatim reports of the debates in the sections be discontinued, and that the reports of the sections be limited to the papers presented and recommended by the section for publication, and such minutes as may be naturally read before the section. Adopted.

Dr. Hildreth, of West Virginia, moved that no paper be referred to the Publication Committee unless it had actually been read before the appropriate section Laid on the table.

The usual vote of thanks was tendered to the Committee of Arrangements, to the citizens of Chicago for their hospitality, and to the Northwestern railroad for courtesies.

The retiring president thanked the Association for the honor of the presidency; compared the behavior of the session

just passed with what happened in the Baltimore session some years ago; sketched some of the earlier meetings, and introduced his successor, Dr. Richardson, of Louisiana.

The new president said that he had abundant reason to feel especially and profoundly grateful for the honor conferred upon him, since the majority of the members did not know him, and accordingly he looked upon his elevation to that dignified position as a compliment to the distant South-west. In the name of those states, and particularly of his own, he again returned them thanks. The fact of his succeeding the illustrious gentleman who had just retired from the chair, made him feel but the more embarrassed, but he felt assured that the great generosity which had placed him in that position of honor would not be wanting to him in the hour of his trials, and would forgive any mistakes.

The Association then adjourned till next June.

SECTION WORK.

On the first day the section on Practical Medicine, Materia Medica and Physiology listened to Dr. A. B. Palmer's paper upon the "Effects of Quinine in the Treatment of Pneumonia." It was discussed by Dr. Palmer, Dr. Gallagher, Dr. Hibbard, Indiana, Dr. Scott, of Ohio, Dr. Yandell, of Kentucky, and others. Dr. John Morris, of Maryland, read a paper entitled "Effects of Remedies in Small Doses." In the section on Obstetrics, etc., the secretary read the paper of Dr. W. H. Byrd, of Quincy, Ill., upon "Surgical Treatment of some of the Diseases of the Female Urethra." Dr. Martin, of Massachusetts, also read a paper by Dr. G. Kimball, of Massachusetts, on "Extirpation of the Uterus," which gave rise to an animated discussion. Dr. Bozeman, of New York, read a paper entitled "Is Closure of Vagina ever Necessary for the Cure of Vesico-Vaginal Fistula?"

In the section on Surgery and Anatomy, Dr. J. T. Hodgen, of Missouri, treated the "Value of Extension in the Treatment of Fracture of the Femur." This subject elicited such a spir-

ited discussion that no further business was transacted this P. M. The section adopted two resolutions.

Resolved, That in fractures of the thigh, notwithstanding the judicious employment of every mechanical contrivance hitherto devised, shortening of the limb is of frequent occurrence.

Resolved, That it is the opinion of this section that shortening in case of fracture of the long bones is the rule in practice, regardless of any of the plans of treatment now in use.

In the section on Medical Jurisprudence, Chemistry and Psychology, Dr. J. P. Gray, of Utica, N. Y., read an essay on the "Relations of Spiritualism to Medical Jurisprudence," and the remainder of the afternoon was employed by Dr. Seguin in reading his paper on the "Need of Hygienic Precaution and Physiological Rules in the Conduct of Schools"

In the section on State Medicine and Public Hygiene, Dr. J. L. Cabell, of Virginia, read an exhaustive essay on "The Etiology of Enteric Fever."

On the second day in the section on Practical Medicine, Dr. N. S. Davis read a report on "Clinical and Meteorological Records," and he was followed by Dr. C. Denison, of Colorado, with "Cases showing the Influence of Colorado Climate on Consumption."

In section No. 2 the greater part of the afternoon was occupied in the exhibition and explaining of gynæcological instruments.

In section No. 3, Prof. Gross read a paper from his son on "Stricture of the Urethra from Masturbation, and its Pathological Significance." Dr. Briggs, of Tennessee, gave the session a lively hour or two by the discussion which his paper "Mediobilateral Lithotomy" excited. Dr. Sayre followed with a short paper upon the "Treatment of Fractured Ribs by Extension and Expansion of the Chest, and Retention by Plaster of Paris Bandages." The fourth paper, entitled "Conservative Surgery," by Dr. Quimby, of New Jersey, concluded the afternoon's work.

In section IV, Dr. R. J. Patterson made an interesting opening by his paper, "Do Facts Justify the Recognition of Moral Insanity as a Distinct Form of Mental Disease?"

After the discussion followed the paper of Dr. G. A. Buckham of Michigan, entitled "Medical Testimony, with Special Reference to Cases of Insanity." In section I, Dr. P. R. Black, of Newark, Ohio, read an able paper on the "Relation of Heredity to Race, Degeneration and Improvement." Dr. A. N. Bell, editor of the Sanitarian of New York, then read his interesting paper on the subject of "Tuberculosis." He showed the danger to infants of imbibing tubercular consumption through milch-cows, by the use of milk from the cows infected with the disease. From a large number of experiments which he cited, he thought there was no doubt upon the contagiousness of tubercle through the medium of tubercular meats, so that the strictest police inspection of public meat markets should be instituted and tubercular meats thrown away, and heavy fines, and severe punishments follow the sale of prohibited articles. Dr. Comegys, of Cincinnati, Ohio, read a brief paper on "State Medicine" which was not adopted.

On the third day, section I., heard the report of Dr. H. A. Martin, on "Bovine Vaccination." Dr. L. B. Bulkley, of New York, read a paper on "The Recognition and Management of the Gouty State in Diseases of the Skin." Dr. F. H. Davis, of Chicago, read a paper on "Chronic Diseases of the Respiratory system" In section No. II, the chairman concluded his annual address and discussions followed. On section No. III, Dr. Woodberry, read for Dr. Benjamin Lee, of Pennsylvania, and exhaustive treatise on "Suspension as a Means of Treatment in Spinal Diseases." Dr. S. D. Gross, read an interesting paper on "The Immediate or Proximate Cause of Pain." Dr. S. J. Jones on "Recent advances in Otology." Dr. Link on, "Open Air Treatment of Wounds"; Dr. Martin, of Boston, on Varicose Ulcers.

Section IV had no papers for the afternoon and accordingly adjourned. In section V, Dr. Elisha Harris, of New York, read a paper on "The Results of State Legislation on Public Health."

Certain matters specially relating to the profession in Michigan are best stated together. It will be remembered that at the annual meeting of the Association in Philadelphia last year, charges of "irregularity" were made against the Michigan State Medical Society, and Drs. Foster Pratt, of Kalamazoo, and G. K. Johnson, of Grand Rapids, because of the efforts made by them to obtain a law erecting a State Board of Medical Examiners. At that time those charges were referred to a committee of the Judicial Council. On Thursday morning, June 9, this committee reported as follows:

Through the courtesy of Dr. Wm. B. Atkinson, Secretary of the Association, we are enabled to present our readers with a verbatim copy of the decision in this case, for the information of the profession in Michigan and elsewhere.

Report of Judicial Committee: Your committee appointed to consider the charges made by Dr. George E. Frothingham, against the Michigan State Medical Society, and against Dr. Foster Pratt, of Kalamazoo, and Dr. G. K. Johnson, of Grand Rapids, Michigan, at the meeting of the American Medical Association, 1876, respectfully report as follows:

First, That we find said charges both against the Society and the two members named, relate exclusively to one subject, namely; the advocacy on the part of the society of the enactment of a law by the Legislature of Michigan, establishing a State Board of Medical examiners and the appointment of a committee to confer with Homœopathic practitioners in relation to the propriety of having the Board contain representations from so-called different schools of medicine—in other words a mixed Board similar to that which exists in the Province of Ontario, Canada.

Second, That the acts thus charged *relate exclusively to matters of legislation and governmental policy; concerning which every physician as well as other citizens must be allowed full liberty of opinion and expression*; and that they have *no relation* to the question of *consulting with irregular practitioners* at the bedside of the sick as contemplated by the code of ethics; therefore we recommend for adoption by the council.

Resolved, That the charges against the Michigan State Medical Society, and Drs. Pratt and Johnson, by Dr. Frothingham, be dismissed as having no bearing upon the professional character of either the society or the individuals named.

N. S. DAVIS,
S. N. BENHAM,
Committee.

This report was adopted by the Council, given to the Association as before stated, and is final. Another matter of interest is the following statement of charges preferred against the Michigan State Medical Society. By courtesy of Dr. N. S. Davis, we are able to present an exact account of those charges.

To the American Medical Association:—I hereby charge the Michigan State Medical Society with a disregard and violation of the ethics of the Association in this, to wit: That on the 10th day of May, 1877, at the annual meeting of said Society, held at Battle Creek, Michigan, it elected Dr. Edward S. Dunster as a delegate to this Association, well knowing that he, the said Dr. Edward S. Dunster as the Professor of Obstetrics, and Diseases of Women and Children in the Medical Department of the University of Michigan, during the scholastic term for the year 1876–1877, did aid and abet in the teaching and graduating of students in an irregular and exclusive system of medicine. For which election the said State Medical Society of Michigan has forfeited its right to representation in this American Medical Association.

W. W. JONES, of Ohio.

CHICAGO, June 7, 1877.

These charges were referred to the Judical Council to be reported upon at Buffalo, January, 1878.

In the meantime it will be wise for members of the Michigan State Medical Society to study those charges, and to prepare to defend themselves and the society. Important questions are at issue and must be met. E. A. C.

Association of American Medical Colleges.

Most of our readers will remember that in June, 1876, representations of numerous medical colleges convened in Philadelphia, that various matters were discussed in the two day's session and that a committee was appointed to draw up Articles of Confederation; a Constitution and By-Laws, the same to be submitted in 1877, The meeting last year was organized into the "Provisional Association of American Medical Colleges." In compliance with the call of its President, Prof. J. B. Biddle, this Association convened at the Palmer House, Chicago, June 2d. The call invited all medical colleges represented at the meeting of the Association held in June, 1876, to send delegates, as also all chartered medical colleges in the United States recognized as "regular" by the colleges already represented in the Association. The roll being called, the following responded:

Jefferson Medical College, Prof. J. B. Biddle; College of Physicians and Surgeons, New York, Prof. E. Curtis; Medical Department of the University of Louisville, Prof. L. P. Yandell, Jr., Prof. J. M. Bodine; Hospital College of Medicine, Louisville, Prof. D. S. Reynolds, Prof. William Bailey; Medical Department, University of Iowa, Prof. E. F. Clapp, Prof. W. F. Peck; Chicago Medical College, Dr. N. S. Davis; Indiana Medical College, Prof. J. A. Comingor; Medical Department of Wooster University, Prof. W. J. Scott, Prof. H. J. Herrick; Cleveland Medical College, Prof. J. H. Bennett, Prof. J. M. Himes; Detroit Medical College, Prof T. A. McGraw, Prof. L. Connor; Starling Medical College, Prof S. Loving; Medical Department University of Vermont, Prof. A. G. Woodward; Medical Departments University of Nashville and Vanderbilt University, Prof. T. A. Atchison; Missouri Medical College, Prof. A. P. Lankford, Prof. P. D. Robinson; Keokuk College of Physicians and Surgeons, Prof. J. J. Angear, Prof. J. C. Hughes.

On motion, the President appointed a Committee on Credentials, consisting of Drs. Yandall, Scott, and Connor. This Committee reported favorably upon the following:

Dartmouth Medical College, Prof. E. S. Dunster; Kansas City College of Physicians and Surgeons, Prof. T. B. Lester; Medical College of Virginia, Prof. T. B. Cunningham; Miami Medical College, Prof. J. A. Murphy; Louisville Medical College, Prof. C. W. Kelly; Department of Medicine and Surgery, Michigan University, Prof. Donald McLean; Woman's Hospital College of Chicago, Prof. Charles W. Earle; Medical Department Louisiana University, Prof. T. G. Richardson; College of Physicians and Surgeons of Indiana, Prof. R. N. Todd and Prof. John E. Link; Rush Medical College, Chicago, Prof. Moses Gunn.

The Committee were unable to decide on the case of the Fort Wayne Medical College, as objections had been received from the Secretary of the Allen County Medical Association, of Indiana. After some discussion the protest was read, and Messrs. Meyers and Clark, representatives of the Fort Wayne Medical College, stated their view of the case, which was finally referred to a special committee, consisting of Drs. N. S. Davis, J. J. Augiar, and Charles W. Earle. This committee reported that the communication contained no definite specifications, and was written in censurable language. They also found that the Fort Wayne school had followed the usual method in its plan of organization and practice in all respects except that it accepted four years of practice in lieu of one course of lectures. They therefore recommended the admittance of the Fort Wayne delegates which was so ordered.

The National Medical College of Washington, D C., the Howard University of Washington, the Texas Medical College Hospital of Galveston, and Medical Department of Willamette University, Salem, Ore., and the Medical College of the Pacific, San Francisco, sent letters approving of the objects of the Association, which were received and read.

The report of the Special Committee on Constitution and By-Laws was presented by Prof. Edward Curtis and printed copies were distributed to the members present. The Secretary read the document, which was considered by sections.

The discussion and adoption of this document occupied the remainder of Saturday.

We have not space to present the entire document; some idea of the nature of the Association may be gathered from the following quotations. In general it may be said that instead of disputing and fighting one another respecting their differences, the Associated Colleges propose to aid one another upon all points of agreement. Mutually helping each other they will be able to render it advantageous for all colleges to unite in a general movement all along the line.

The name of the Association shall be the American Medieal College Association, and its objects the advancement of medical education and the establishment of a common policy among medical colleges in the more important matters of college management. Art. III. provides for a President, Vice President, Secretary, and Treasurer, to serve one year, and to be perpetually eligible for re-election. The article in regard to membership reads as follows:

1. Any chartered medical school in the United States which shall conform and subscribe to the articles of confederation of of this Association may become a member of the same.

2. Any college member who shall be convicted upon trial of willful violation of any of the articles of confederation of the Association, or which shall fail to make answer to such charges of such violation, duly preferred, at the meeting at which the same come up for trial, shall thereby forfeit its membership in in the Association.

3. Any college which shall thus have forfeited its membership, or any college whose original application for membership shall have been rejected by the Association, shall not be eligible for membership again until a period of two years shall have elapsed since the time of forfeiture or rejection.

Art. V. Provides for annual meetings in May or June, and the remaining articles relate to the method of proposing amendments to the constitution.

The by-laws provide for admission of colleges, trial of members, affiliated colleges to be admitted, assessments, and the like.

The articles of confederation are more important, and read as follows:

ARTICLES OF CONFEDERATION.

(*To be subscribed and conformed to by all the Colleges of the Association.*)

ARTICLE I. OF THE FACULTY.

The medical members of the Faculty must be *regular* graduates or licentiates and practitioners of medicine, in good standing, using the word "regular" in the sense commonly understood in the medical profession

ARTICLE II. OF TUITION.

SECTION 1. The scheme of tuition shall provide for a yearly systematic course of instruction covering the general topics of Anatomy, including Dissection, Physiology, Chemistry, Materia Medica and Therapeutics, Obstetrics, Surgery, Pathology and Practice of Medicine. The collegiate session, wherein this course is given, shall be understood as the "regular" session.

SEC. 2. Said Regular Session shall not be less than twenty weeks in duration. This Section to go in force at and after the Session of 1879-80.

SEC. 3. Not more than one regular session, counting the regular session as one of the two courses of instruction required for graduation, shall be held in the same year.

ARTICLE III. REQUIREMENTS FOR GRADUATION.

No person, whether a graduate in medicine or not, shall be given a diploma of "Doctor of Medicine" who shall not have fulfilled the following requirements, *except* as hereinafter provided for in Article IV.:—

1. He must produce satisfactory evidence of good moral character, and of having attained the age of twenty-one years.

2. He must file a satisfactory certificate of having studied medicine for at least three years under a *regular* graduate, or licentiate and practitioner of medicine, in good standing, using the word "regular" in the sense commonly understood in the

medical profession. No candidate shall be eligible for final examination for graduation, unless his term of three years study shall have been completed, or shall expire at a date not later than three months after the close of the final examinations, this clause to take effect at and after the session of 1879–80.

3. He must file the proper official evidence that, during the above-mentioned three years, he has matriculated at some affiliated college, or colleges, for two regular sessions, and in the course of the same (except as provided in 4,) has attended two full courses of instruction on the seven topics mentioned in Article II. But the *latter*, at least, of the two full courses must have been attended at the college issuing the diploma. No two consecutive courses of instruction shall be held as satisfying the above requirements unless the time between the beginning of the first course and the end of the second is greater than fifteen months.

4. In case a college shall adopt a systematic graduated scheme of tuition, attendance on the whole of the same shall be equivalent to the requirements mentioned in 3 ; *provided* such scheme includes instruction in the seven topics mentioned in Article II., and requires attendance at least two yearly regular Collegiate Sessions of not less than twenty weeks' duration each.

5. The candidate must have passed a personal examination before the Faculty on all seven of the branches of medicine mentioned in Article II.

6. He must have paid in full all College dues, including the graduation fee.

ARTICLE IV. OF HONORARY DEGREES.

An honorary degree of "Doctor in Medicine" may be granted in numbers not exceeding one yearly, to distinguish physicians or scientific men of over forty years of age. But in such case the diploma shall bear across its face the word "Honorary" in conspicuous characters, and the same word shall always be appended to the name of the recipient in all lists of graduates.

ARTICLE V. OF FEES.

SECTION 1. All fees shall be paid in lawful money, and no promissory notes or promises to pay, shall be accepted in lieu of cash for payment of fees.

SEC. 2. No ticket, or other certificate of attendance upon college exercises, shall be issued to any student until the dues for the same shall have been fully paid.

SEC. 3. The established fees for the exercises of the regular session, except the matriculation fee, graduation fee, fee for dissections, may be reduced not more than one-half to graduates of other affiliated colleges of less than three years' standing, and to under-graduates of the same who have already attended two full courses of the instruction of the regular session.

SEC. 4. The same fees may be remitted altogether to a college's own alumni, to graduates of other affiliated colleges of three years' standing—the three years dating from the time of graduation and ending at the close of the regular session for which the tickets are given—to under-graduates who have already attended two full courses of the instruction of the regular session, the latter of which, at least, shall have been in the college making the remission, and to theological students, when not candidates for a diploma.

SEC. 5. The same fees may be reduced or remitted to deserving indigent students, to a number not exceeding five per cent. of the number of matriculants at the previous regular session of the college.

SEC. 6. Under no circumstances whatever, other than the above, shall the Faculties, or any members of the same, grant, *upon their own authority*, any remissions or reductions of established fees. And it is distinctly understood and agreed that the Faculties will discountenance and oppose the authorizing by governing Boards of the admission of individual students upon other than the regularly established charges for their grade.

SEC. 7. Remission or reduction of fees for other exercises than those of the regular session, return to a student of any monies after payment of fees, or an appropriation of funds of the college for payment of any student's fees, or part thereof, shall

be deemed violation of the provisions of this article in regard to remission or reduction of fees.

ARTICLE VI. OF RECOGNITION OF OTHER COLLEGES.

No college shall admit to the privileges accorded in Articles III. and V. the students or graduates of any college which, during any period of the student's or graduate's pupilage, shall have been excluded from the list of affiliated colleges recognized by the Association.

ARTICLE VII. AMENDMENTS.

Amendments to these Articles shall be proposed and adopted in the manner prescribed for amendments to the Constitution.

Having finally adopted a Constitution, By-Laws and Articles of Confederation, Dr. Edward Curtis, of New York, offered the following:

Resolved, That the Provisional Association of American Medical Colleges do now adjourn *sine die.*

Resolved, That the American Medical College Association do now organize under the officers of the former Provisional Association, with the constitution, by-laws, and articles of confederation adopted at the last meeting of the Provisional Association, and that colleges represented by delegates at the Provisional Association, and eligible for membership to the present Association under its constitution, be now called upon seriatim for the subscribing by the delegates to the constitution, by-laws, and articles of confederation.

The resolutions were adopted, and the delegates signed the roll as follows: Jefferson Medical College, J. B. Biddle; College of Physicians and Surgeons, Medical Department of Columbia College, New York, Edward Curtis; Medical Department, University of Louisville, J. M. Bodine and L. P. Yandell, Jr.; Hospital and College of Medicine of Louisville, William Bailey and Dudley S. Reynolds; Medical Department, Iowa State University, W. I. Peck and E. F. Clapp; Chicago Medical College, Medical Department of the Northwestern University,

N. S. Davis; Medical Department, University of Wooster, O., W. J. Scott and H. J. Herrick; Cleveland Medical College, Medical Department Western Reserve College, Isaac M. Himes; Detroit Medical College, E. W. Jenks, Theodore A. McGraw, and Leartus Connor; Starling Medical College, Starling Loving; Medical Department University of Vermont, A. T. Woodward; Medical Department of the Nashville and Vanderbilt Universities, John H. Callender and T. A. Atchison; Missouri Medical College, St. Louis, P. Gervais Robinson; Dartmouth Medical College, Hanover, N. H., E. S. Dunster; Kansas City College of Physicians and Surgeons, T. B. Lester; Miami Medical College of Cincinnati, O., John A. Murphy; Louisville Medical College of Louisville, Ky., C. W. Kelly, E. S. Gaillard; Department of Medicine and Surgery of the University of Michigan, Donald MacLean; Rush Medical College, Chicago, Moses Gunn; Medical Department of the University of Louisiana, T. G. Richardson; Indiana Medical College, John A. Comingor; Medical College of Fort Wayne, Ind., H. A. Clark; Woman's Hospital Medical College of Chicago, Charles W. Earle.

Dr. McGraw, of Detroit, offered the following resolution;

Resolved, That each and every confederated college publish in the annual circulars and catalogues, the names of all confederated and affiliated colleges beginning with the announcements of 1878.

The resolution was adopted without debate, as was also one providing for an assessment of $5 per college to meet current expenses.

The election of officers of the permanent Association for the ensuing year was then taken up.

Prof. Edward Curtis, nominated for President, Prof. J. B. Biddle, of Philadelphia; for Vice President, Dr. N. S. Davis, of Chicago; and for Secretary and Treasurer, Prof. L. Connor, of Detroit. The election of all these officers was unanimous, and the result was received with much applause.

Prof. Biddle, in returning thanks for the compliment paid him, said that he thought they had reason to be extremely well

satisfied with both the quantity and quality of the work done so far.

Dr. N. S. Davis on taking his seat remarked that he hoped they would sink all minor differences and work together for the common good of the profession and of humanity.

A vote of thanks to the Committee, which through its able Chairman Prof. Edward Curtis of N. Y., had prepared the Constitution, By-Laws, and Articles of Confederation was unanimously adopted, and the Association adjourned *sine die.*

We have not space to dwell upon the importance of the organization thus affected. Should any desire the official report, it can be had by writing to the Secretary, at Detroit, Mich. The general spirit of the meeting was even better than last year. All physicians will agree that the Articles of Confederation are the least that any school should require, and they will look with distrust upon all colleges who do not soon unite with the Association. Abundant provision is made for those who are in advance ; and there is no valid reason why they should not add their influence to promote the common good. Let all colleges not in the Association at once take the proper steps to become enrolled therein. L. C.

Association of American Medical Editors.

This Association convened at Chicago, Monday evening, January 4th. The annual address was delivered by the President, Dr. H. C. Wood, of Philadelphia. His first proposition was, that America had no great Medical Journals, only "a multitude of small fry" Secondly, he raised the war cry "down with the transactions" of our State, national and local societies. Thirdly, he attacked the subject of medical education. The "extent and virulence of this curse" he passed in silence. As to reform he believed that there were only two plans now favorably considered by the profession, viz: the endowment of medical colleges and the appointment of Governmental Examining Boards.

Of those he considered the first impracticable, and if prac-

ticable, inefficient. State Examining Boards he looked upon with favor, although admitting some of the difficulties connected therewith.

Dr. N. S. Davis gave an interesting account of the history of the formation of the Association. He thought it would be better if medical editors gave to their respective journals more of individuality.

Dr. Bell, of the Sanitarian, boldly stated that the eclectic and homœopathic journals were edited with more skill and labor than the regular journals. Dr. J. A. Murphy discussed the address a great length. He defended the publication of transactions and the present system of medical education, showing that they had some good features. He protested against the spirit of the address which he characterized as "tear down." Officers elected for the ensuing year were, Dr. John P. Gray, editor of "American Journal of Insanity," President; Dr. Leartus Connor, editor of DETROIT MEDICAL JOURNAL, Vice President; and the Permanent Secretary, Dr. F. H. Davis, of Chicago, continued.

Detroit Medical and Library Association.

APRIL 2, 1877.

President Brown occupied the chair.

The secretary read two letters received from the secretary of the state society, one certifying that the association had com plied with the regulations of the American Medical Association, and was entitled to representation therein, the other calling attention to an amendment of the constitution of the State society proposed by the "Committee of Nine," at their regular meeting for 1876, and requesting the action of the Association thereon, in accordance with a resolution passed at the same meeting.

On motion of Dr. Mulheron the letters were received and placed on file.

Dr. Mulheron read the following notes:

Purpura Hæmorrhagica. — Cases of idiopathic purpura hæmorrhagica are, I think, sufficiently rare to warrant me in reporting one which came under my observation lately.

March 22nd, I saw, in consultation with Dr. Georg, of this city ———aged six. This was on the third day of her illness, of which I received the following brief history: Although not a rugged child, she was never by her parents regarded as sickly, and was regularly sent to school. On the evening previous to the appearance of the eruption she attended a children's party, and participated in the dance, which was a part of the amusement of the occasion. On the morning of the day of eruption she went to school in her usual health; at noon she was suddenly seized with severe pains in her feet, and being unable to walk, was carried home. Dr. Georg saw her at 4 P. M. of the same day, and on removing her stockings, found the feet and the legs half way to the knees of a deep purple, almost black color, the line of demarkation being abrupt and clearly defined. Temperature normal; pulse 85. Ordered stimulants and quinine with nitro-muriatic acid.

On the following morning he found that the color had almost entirely disappeared from the feet and legs and had appeared somewhat intensified in the thighs and axilla. Treatment continued.

Thursday I saw her with the doctor, and found discoloration of the lower part of the abdomen and a spot on the back below the left shoulder blade in addition to that which was present on the previous day. Pulse, 102; temperature, 101°. I was surprised to find such deep discoloration, and before inspecting it closely, inquired of the doctor whether he had been applying iodine, the color being easily mistaken for the deep shade produced by repeated applications of the tincture of that article. The pain in the feet was the only discomfort complained of.

We decided to give Tr. Ferri Mur. combined with Liq. Ammon. Acetatis. Dover's powder was given to relieve pain. The prognosis was given as most doubtful. She passed the

following night comparatively easy, but began to sink towards morning, and so rapidly that death supervened at 5 A. M.

An autopsy was conducted twelve hours after death in the presence of Drs. Yemans, Davenport, Georg and myself. The discoloration was as deep as before death, not the least fading having taken place. The ecchymosed spots were very soft, offering but little resistance to the introduction of the knife. The puncture was followed by a flow of reddish serum, the redness being due to the presence of abundant red corpuscles, as revealed under the microscope. This fluid penetrated and infiltrated not only the areolar tissue but also the adipose, of which latter there was a liberal layer. The examination of the viscera was attended by negative results, the only notable appearance being a very anæmic condition of these organs. The cavities of the right heart were filled with a bloody serum similar to that which infiltrated the areolar and adipose tissue in the ecchymosed spots.

Dr. Yemans remarked that he was in doubt as to whether the case was one of real purpura hæmorrhagica. There was no bleeding from the mucous surfaces, which was always very profuse in real hæmorrhagic purpura. Although there was a good deal of pain he should regard the case as one of purpura simplex.

Dr. Mulheron thought the severity of the symptoms warranted his classing the case as of the hæmorrhagic variety, not only the areolar but the adipose tissue being infiltrated with the extravasated blood.

It was true that hæmorrhage from the mucous surfaces was considered by some as pathognomic of this variety of the disease, but he did not think it occurred in all cases.

Dr. Lundy said he had attended two cases of purpura, one of which had hæmorrhage from the bowels and there was also severe pain. Both recovered in a week or ten days under the administration of iron.

Dr. Eugene Smith said an albino had recently been brought to him to see if anything could be done for the unsteady motion of the eyes peculiar to albinos. It was, of course, incurable.

He thought it remarkable that two out of nine children born of very dark-skinned parents should be albinos. Such a thing was unknown in the previous history of the family, and there was no consanguinity of marriage.

He also reported having seen a case of ivory exostosis, the growth filling the auditory canal so as to cause deafness. Several attempts at removal had been made under the supposition that it was a white bean. An examination was made under anæsthetics, when its true character was discovered. It did not occur to him at the time, but under like circumstances again he should attempt removal with a dentist's drill.

THEO. F. KERR, M.D.,
Secretary.

MAY 7, 1877.

President Jas. A. Brown, in the chair.

Dr. Lewitt exhibited a patient to the Association and read the following notes on the case as exhibiting the results of fistulous empyema:

G. C. Mc., aged 44 years, in September, 1849, was struck in the right mammary region by a base ball. Nothing was noticed until March of the succeeding year, when he was attacked with all the symptoms of pleurisy and was sick abed for eight weeks. He was not able to leave the house for a year after, during which time he was troubled with a cough, the sputa being, as he says, "pure matter." About a year from the time of receiving the injury, he noticed a slight swelling about the region where he was struck. This swelling did not increase in size, but about six months from the time that he first noticed it, a sudden discharge of pus took place, he thinks as much as two gallons escaping from the opening. After this there was a constant discharge of pus for two years, when the fistula closed, but only for a short time; it would open at intervals. During the next five years, two other fistulae appeared, which would also occasionally heal up for a short time. At the end of seven years all three openings closed and have not since troubled him. He says that his cough was always worse when any of the fistulæ were closed, and after the first discharge of pus he began to im-

prove and was soon able to be about again. He first noticed the sinking of the chest walls about a month after the discharge of pus and this kept increasing for sixteen years.

We notice that the patient is very anæmic, that the pulse is quite weak and the circulation poor, his fingers being always cold. The spine exhibits considerable lateral curvature. The chest walls are very much depressed and the cicatrices of the fistulæ are to be seen.

By percussion on affected side, we find, in front, very slight resonance at the apex and dullness on the rest of that side; behind, we find flatness over the whole part.

By auscultation, we find tubular breathing over most of the side which diminishes in intensity as we go from the median line. The voice sounds are very much exaggerated, particularly toward the apex. The left side exhibits signs of emphysema. On examining the heart, we find the second sound increased in intensity and the first sound diminished. It will also be noticed that the apex beat can neither be seen nor felt.

Dr. Shurly remarked that in all cases of pleurisy with effusion the fluid should be removed at the earliest possible moment, even if the operation has to be repeated. It is of the utmost importance to preserve the function of the lung and this could be done by an early operation, even though empyema might result.

Dr. Mulheron said he had recently attended the *post mortem* of one who had died from the effects of pleuritic effusion. Although paracentecis thoracis had been performed ten months before death and a fistulous opening maintained, no relief followed the operation. The lung was compressed against the spine into a small, hard mass about the size of the fist. The cavity of the pleura was filled with air and its inner surface covered with a greenish mold. There were no signs of a pleuritic membrane.

Dr. Shurly again remarked that this case illustrated the necessity of an early operation in order that the function of the lung should be restored after it was lost by compression. Relief would almost always be obtained if the operation was done at

the right time. He had seen a number of cases during his hospital service and since, and quite recently had had an opportunity of seeing a successful case. A certain proportion were however, unsuccessful, as in all surgical cases.

Dr. Eugene Smith read the following notes, "Blepharitis a frequent result of Ametropia."

During the session of the International Medical Congress at Philadelphia, my attention was drawn to the errors of refraction as a probable cause of inflammation of the edges of the lids, by my friend Dr. P. D. Keyser, who informed me that for about 18 months or two years he "had made it his invariable rule to examine all cases of blepharitis for errors of refraction," and had found in many cases that such existed. A short time subsequently, Dr. Roosa, of New York, presented a paper, entitled "On the Relations of Blepharitis Ciliaris to Ametropia," to the International Ophthalmological Congress, held in New York last September, which provoked quite a little discussion on the part of the members present from Great Britain, they seeming to think blepharitis essentially a disease of the lower classes. This may be so in their country, and really one could easily imagine that such is the case, if he were to attend the various hospitals for a short time, but to the fact that such is *not* the case in *this country*, I wish to add my testimony. Not being connected with any of the hospitals, but enjoying a large private practice in ophthalmology, I see many cases of blepharitis ciliaris among the better classes, and since last September, I have found out of eleven cases, *but one* which did not have hypermetropia. All oculists know how stubborn and unyielding many cases of this disease are to treatment, and I have known cases to last for months, regardless of all treatment. From my experience in treating this class of eye disease, since my attention was called to the possible connection between it and hypermetropia, I have been surprised at the rapid response to treatment, when the refractive error has been corrected, of a majority of the cases. One case only has proved really stubborn, but this was a chronic case and the patient, an ice dealer of this city, was at work on the ice and in the cold during the entire treatment. The trouble

with the edge of the lid does not seem to be influenced particularly by the degree of ametropia, but simply requires, as it were, a sufficiency to produce asthenopic symptoms, the resulting hyperæmia probably causing the lid trouble. It requires also, for its developement, in my opinion, a predisposition on the part of the patient, to lid affection.

I mean by this, that persons who suffer much from acne, persons of lymphatic temperament and of light or sandy complexion. These are the ones who seem to be predisposed to lid affections, and the lid trouble is invariably increased when the eyes are used on close work (sewing or reading.)

I do not think it necessary to take up your time with the particulars of individual cases, as they differ but little from each other. I am well aware that the number of cases I offer goes but a small ways towards proving that a majority of cases of blepharitis are caused by ametropia, yet the coincidence would tend to the adoption of Dr. Roosa's conclusion, that "ametropia seems to be the condition of most eyes affected with blepharitis ciliaris."

Dr. Connor remarked that in long continued inflammation of the eyes he had found it necessary to examine for errors of refraction. When he began to do this in his own practice he very soon discovered that the disease was frequently due to overwork. He had seen cases of so-called "granular lids" recover with the use of proper glasses. Dr. Smith had done good service in throwing light on a simple disease which was often very annoying to the general practitioner.

Dr. Yemans reported that he had recently been called to see a child suffering from severe epistaxis but which soon ceased. Next morning the entire surface of the body and extremities was covered with petechiæ and there was hæmatemesis, hæmaturia, and hæmorrhage from the bowels. The child was five years old and during the day he administered six grains of ergotin. The hæmorrhages ceased and the child recovered from what he considered an attack of purpura hæmorrhagica.

Dr. Carstens inquired if there was any way to tell the difference between purpura hæmorrhagica and purpera variola. He

had seen some cases of this character when small pox was prevalent and was never sure that the disease would not have developed into real hæmorragic small pox if the patients had lived long enough.

Dr. McGraw briefly detailed the history of a patient, the subject of a multilocular ovarian cyst of nine months growth. Three months ago he had strongly advised an operation, but it was persistently refused. Quite recently he had been called to Utica to see the patient, whom he found in a moribund state. The cyst did nof rise above the umbilicus, but a large tumor, the size of a newly born child's head, distended the perineum. An examination showed that the tumor lay posteriorly to the vagina and anteriorly to the rectum. It did not disappear when the patient reclined, and he excluded rectocele, as Atlee claims that this tumor always recedes when the patient assumes the recumbent posture. The Dr. believed it was the cyst which had occupied the recto-uterine space and gradually forced itself downwards and outwards between the walls of the recto-vaginal septum. He punctured it for the sole purpose of removing the fluid and giving temporary relief from the dyspnœa, which it did. The fluid smelled like urine, and he feared he had tapped a cystocele, but a microscopic examination revealed the presence of the characteristic corpuscle of the ovarian cyst.

MISCELLANEOUS BUSINESS.

The President announced the following members of the Committee on Nominations: A. E. Carrier, one year; C. C. Yemans, two years; R. A. Jamieson, three years; C. J. Lundy, four years; E. L. Shurley, five years.

Adjourned.

THEO. F. KERR, M.D.,
Secretary.

Abstracts from Exchanges.

Practice of Medicine.

SUPPRESSION OF THE SALIVARY SECRETION.—(*Can. Med. & Surg. Jour.*, April, 1877.) Dr. D. Baynes relates the details of one of those rare cases occurring after an attack of acute tonsillitis. Both Steno's and Wharton's ducts were found open on examination. The patient said that his tongue felt too large for his mouth, and that the latter seemed filled with tallow. He was continuously obliged to wash his mouth or drink both night and day to prevent the choking sensation experienced from the dryness of the mucous membranes. After three weeks' ineffectual treatment by stimulating gargles and internal remedies, a copious flow of saliva was induced by passing for ten minutes the frequently reversed current of a 12 cell zinc-carbon galvanic battery through the parotid gland, the negative pole being connected to a probe placed in Steno's duct, while the positive was applied to the nape of the neck.

NUSSBAUM'S NARCOSIS.—(*Neues Rep. of Pharm.*, 1876. *New Remedies*, Mar. 15, 1877). The peculiar state called Nussbaum's narcosis, produced by the subcutaneous administration of a few centigrammes of morphia, about fifteen minutes previous to placing a patient under the influence of chloroform has already been known for some time, and made use of with great benefit during operations in the mouth or in the fauces, as the full anæsthetic effects of the chloroform are preserved while the loss of consciousness is by no means complete. Still better results have lately been obtained by substituting a subcutaneous injection of a few centigrammes of muriate of narceine for the morphia. The hypodermic solution is best made as follows: 0.3 gm. of muriate of narceine are mixed with 20 gm. of destilled water in a flint or test-tube; the latter is placed in a water motor and heated until the salt is dissolved.

Therapeutics.

Uses of Bromide of Camphor.—(*London Lancet*, March, 1877.)—This new drug was discovered by Swartz, in 1862, and accidentally employed for the first time by Deneffe, in 1871. Of the physiological action, it may be stated, that bromide of camphor diminishes the number of beatings of the pulse, causes contraction of the smaller blood-vessels, lowers the temperature and subsequently induces a more or less marked tendency to sleep. Deneffe, O'Hara and Berger, have employed it in delirium tremens. The first two advocate its employment as beneficial, whereas Berger makes some reservations. In insomnia and especially in the forms associated with heart lesions or cerebral hyperæmia Bourneville, Lawson and Pathault declare they have observed encouraging results. Riemer and Hammond say that it is of use in spasms or convulsions brought on by teething. Of those, who have employed it in epilepsy, some think that they have seen the fits become more and more rare under the influence of the drug, while others have only noticed a remarkable diminution in the vertigo or petit mal. Chorea and hysteria are the nervous disorders in which the bromide of camphor has been most extensively used, and with the best effects. Riemer speaks of the bromide with praise, in reference to a case of hysterical excitement. Bournevillc, in cases of epileptic delirium in females, and Tommasi in hysteria with genital erethism and Hammond in a case of chronic hysteria. The benefit arising in hysteria from a methodical use of the drug is also highly spoken of by Profs. Vulpian, Lorain and Potain. "In cystitis of the neck of the bladder," says Dr. Lannelongue, "the action of bromide of camphor speedily shows itself. 1. When cystitis is painful and the pain is not dependent on any organic lesion (neuralgic cystitis). 2. In cystitis of the neck, having a congestive cause connected with a vascular change of the neck. 3. The action is more marked when catarrh is mild and when acute prostatis is added to inflmmation of the neck of the bladder. Dr. Petrovitz has recorded some interesting cases where painful erections during an attack of gonorrhea were speedily arrested by this remedy. It is best administered in the form of dragees for children and in capsules for adults.

Surgery.

Dislocation of the Thigh.—(*Brit. Med. Jour.*, Feb. 17, 1877).—Mr. C. Brooks, in a paper read before the Royal Medical and Surgical Society, arrives at the following conclusions concerning the mode of occurrence of dislocations of the thigh; his deductions are the result of the close anatomical study of the joint, joined to numerous experiments:

1. The ilio-femoral ligament is not a Y-shaped one, but a thickened, triangular, or fan-shaped area of the capsule of the hip-joint; and if two lines be drawn, one from the tuber ischii to the top of the trochanter major, and the other from the anterior inferior iliac spine to the trochanter minor, all the capsule between them, above, is thick and strong, whereas all below and between is thin and weak.

2. The thickened portion of the capsule determines the kind of manipulation necessary for reduction, and should be relaxed by flexion and abduction during any attempt to reduce a dislocation of the thigh.

3. The degree of extension or flexion, and of external or internal rotation of the thigh, at the time of luxation, determines whether the dislocation will be pubic, thyroid, sciatic, or dorsal; and, subsequently, the "bridling" effect of the thickened ed portion of the capsule fixes and gives character to the luxation.

4. All dislocations of the thigh, uncomplicated with fracture, occur while the limb is *abducted.*

5. Posterior dislocations result when flexion and inward rotation accompany abduction; and the anterior when extension, with outward rotation, accompany abduction; while the downward, or thyroid variety, occurs during extension and abduction.

6. Of the movements of the usually successful methods of manipulation, the head of the femur, as brought (by flexion, abduction, and reverse rotation) to the part of the capsule through which it was displaced, namely, to the lower and inner side of it.

7. The new position of the head of the femur in the sci-

atic, as in the dorsal, luxation is above the obturator internus muscle, though in both varieties the bone leaves the acetabulum through a rent in the capsule below the muscle; hence the classification, "dorsal above" and "dorsal below," is misleading, if not invariably incorrect.

8. Dislocation through a "button-hole" is not possible, owing to the inelasticity of the capsule, and the large size of the head of the femur compared with the width of the capsule from pelvis to femur.

9 The rim of the acetabulum of itself offers no real resistance to reduction.

10. In the exceptional case of a direct dorsal luxation, the untorn muscles and capsule would resist reduction by ordinary manipulation; and this resistance would be appreciable to the surgeon.

11. Direct dorsal dislocations, or those which are said to occur during abduction, are always the result of immense violence, and are always associated with fracture of the acetabulum, or of the head of the bone, or of both.

12. Violent pain in dislocations at the hip is caused by the sciatic nerve being pressed upon or looped up by the femur; and pain or paralysis after reduction is due to the dragging forward of the nerve upon the neck of the bone, or to its rupture in the act of reduction.

13. In reducing dislocations associated with great pain, it would be well to draw the head of the bone away from the side of the innominate bone during the movements of flexion and abduction, so as to disengage the sciatic nerve, and thus prevent either of the accidents above mentioned.

Gynæcology.

Treatment of Pelvic Effusions.—(*Am. Jour. Med. Sciences*, Apr. 1877.) Prof. Brickell, of New Orleans, presents his views upon the above subject in clear and decided terms. Although some speedy deaths have followed the plan of treatment which he advocates, the many which have resulted from patiently awaiting the course of nature, and the long and tire-

some convalescence which must even then be effected, are but seldom considered. He summarizes as follows:

1. I have no doubt at all that there are two distinct forms of pelvic inflammation—serous and phlegmonous, or suppurative. An attack of either may be abortive; that is, may fail to result in formation of pus, or effusion of serum. But should either pus or serum be deposited, then

2. I am sure that evacuation is the proper practice; and

3. Either should be evacuated per vaginam.

4. The presence of pus in any portion of the body is not to be tolerated by the surgeon. I contend that the presence of effused serum in the pelvis is not to be tolerated either. As long as it is present, in addition to the pain and prostration present, there is the abiding stimulus to repeated inflammations and the pelvis can and will be ravaged.

5. Topical applications and internal remedies have no influence upon pelvic serous effusions, according to my observation.

Obstetrics.

Influence of Phthisis upon Child-Bearing.—(M. Ortega, *Revue des Sciences Medicales*, *Lancet*, Nov. 1876.)—M. Ortega made his investigations upon ninety-five such cases.

1st. Phthisis has a marked effect upon conception, for only thirteen out of his ninety-five females, although many were multiparae, bore more than one child after the detection of pulmonary symptoms, and a third pregnancy was very rare in such circumstances. In all these cases, the phthisis was in the first and second stage and in one only it was advanced.

2d. In more than one third of the cases, abortion or premature delivery took place; and in those who had a tubercular history, only one-half reached the full term of pregnancy.

3d. Phthisical mothers are unable to suckle their offspring; for eleven infants who were at first healthy, whose mothers had sufficient milk and in whom the phthisis did not develop during nor under the influence of lactation, soon showed signs of insufficient nutrition and died with enteritic symptoms.

4th. Pregnancy hastens the evolution of phthisis to a great extent, delivery being rapidly followed by the death of the mother.

5th. Both pregnancy and lactation are exciting causes of phthisis in predisposed subjects. E. C.

Editorial.

NOTICE TO CORRESPONDENTS, ETC.—Communications intended for publication, and books for review, should be addressed to "Editors of Detroit Medical Journal, care of E. B. Smith & Co., Detroit."

All remittances of money, all letters on the business of the JOURNAL, pertaining to subscriptions or advertisements, should be addressed exclusively to the publishers, E. B. Smith & Co., corner Fort and Griswold Streets, Detroit, Mich.

Original Articles, Reports of Medical Societies, Observations, Correspondence, News, etc., of general interest, are respectfully solicited from every source. Articles should be practical and carefully prepared.

The Editors will not be responsible for statements made over the names of contributors.

The Late Annual Meetings of the State and National Medical Societies.

During the past two months most of the great medical organizations have met and adjourned. In the interval they have presented, discussed and decided many questions of general interest. The State societies, each in its own sphere, have sought to harmonize the local societies into an organic whole. The National society in turn has more firmly cemented the bonds uniting the several State societies into a single unit. From personal observation and a careful study of the published reports we are convinced that during this year, even more than previous ones, the centripetal forces of these societies have gained upon the centrifugal ones. In this unification of the profession, both State and National, these societies are deserving of the most hearty support and encouragement.

In spite of the hard times nearly seven hundred physicians were enrolled as delegates to the American medical profession. Quite a full report of this meeting will be fonnd in other columns of this journal. In no sense brilliant, the meeting was still a credit to the profession and of infinite service. Some good work was done in the presentation of papers, addresses and dis-

cussions, and some poor work mingled with it proved that the entire profession was represented.

One other new medical organization, of national scope, was effected; viz., the "American Medical College Association." Our readers will remember that in June last year the representatives of many Medical Colleges met at Philadelphia; and after two days of conference appointed a committee to draft a plan for a permanent organization of American Medical Colleges. Said plan was duly drafted and presented to the various colleges for consideration. After receiving suggestions the Committee decided upon a plan that was deemed feasable. This plan was presented to the new meeting called in Chicago this year. With slight modification this was adopted by the meeting and signed by the official representatives of twenty-three colleges. In other pages we have given in full the "articles of confederation" upon which this Association is founded. A careful study will show any honorable physician that these are the least that should be demanded. It is expected that all the regular medical colleges of the United States will, in time, become members of the Association. No college with requirements equal to those in these articles of confederation, can lose anything; while it is sure to gain the moral support of all its associates. Clearly it is for the interests of all the colleges to have uniform high fees—long terms and many of them—to get more pay from all students. Once united on a reasonable basis, the medical colleges, backed by the profession, can absolutely control all essential features in the education of regular physicians. We may be too sanguine, but it does seem to us that such a reasonable basis has been reached, and that a more rapid advance in Medical education will take place all along the line of medical colleges. The spirit of the meeting this year was even more commendable than before, and augured well for the future.

As one of the first fruits of this organization the "Louisville Medical College" and the "Kentucky School of Medicine," both have so altered their advertisements as to state that hereafter "the beneficiary provision will be limited to five per cent. for the class; that a graduation fee of $30 will be charged; that

the professor's tickets will be $50 and that no two consecutive courses of instruction shall be regarded as satisfying the requirements for graduation, unless the time between the beginning of the first course and the end of the second is greater than fifteen months." The representatives of these schools joined the Association and will doubtless conform to their agreement in all respects.

The importance of a common policy by the medical schools cannot be exaggerated. It seems to us that in this way rather than by questionable legislation, are we to expect the greatest help in advancing a true medical educational system

Among the reasons why this Association should exercise an enormous influence, are the following:

(1) Its size is small. Only one delegate can represent any one college. Hence if all the fifty seven colleges in the United States were represented, there could be only fifty-seven voting delegates. This number would constitute a perfectly manageable body; one in which any question could be fully discussed by all members so desiring.

(2) The delegates are all men trained to think and speak as well as act. They are familiar with the difficulties and imperfections of the means for medical education. Hence we must expect that they shall think and speak to the point, with greater clearness and breadth than those not possessing such training. Even now the teachers of medical colleges largely give tone to most of the larger societies.

(3) Each delegate is the representative of an incorporated institution. About this latter cluster financial, professional and social interests. As all these interests are involved by any action of delegates, it is fair to suppose that the greatest care will be taken to have this action such as to honor the particular institution represented.

A union of the majority of American Medical Colleges for the mutual benefit of themselves and the profession at large, is an auspicious omen for the future of American Medicine. Old abuses will be lopped off from the present system and gradually a positive advance made all along the line. L. C.

Memoranda.

Dr. J. Marion Sims has unearthed a fourth claimant to the honor of having discovered anæsthesia, viz: Dr. Crawford W. Long, Athens, Ga. He thinks that Wells, Morton, and Jackson, also did good service in the introduction of anæsthesia. Therefore he proposes that the medical profession unite in asking congress to appropriate four hundred thousand dollars to be divided equally between the families of these four men.

The first annual meeting of the American Dermatological Association will be held at Niagara Falls, September 4, 1877.

Dr. Charles A. Budd, late Professor of Obstetrics in the Medical Department, University of New York, died suddenly May 17.

Dr. Jno. P. Reynolds has been appointed to the chair of obstetrics in the Harvard Medical School, left vacant by the death of Dr. Buckingham.

Dr. J. W. McCoy, (Ohio Medical Recorder, May, 1877), records a case in which a woman was delivered of a pair of twins just nine months and eighteen days after having given birth to a first pair of twins. Thus she brought into the world four children in less than ten months. Will some one now report a case in which the interval shall be just nine months.

Prof. Lister has accepted the position of Professor of Clinical Surgery in "King's College Hospital and Medical School," London. Arrangements have been made by which he will be able to carry out his system of clinical teaching and practicing antiseptic surgery under satisfactory conditions. Edinburgh's loss is London's gain, and the antiseptic systems will be subjected to a keen, close criticism.

Wm. W. Darling, M. D., Professor in the University of New York, and J. F. Noyes, M. D., Professor of Ophthalmology and Aural Surgery in Detroit Medical College, on recommendation of the censors, were elected from 13 honorary members of the Rhode Island Medical Society.

The Texas law regulating the practice of medicine has been greatly lauded in certain quarters. Of its practical workings the *Chicago Med. Jour.* Jan, '77, gives the experience of a northern physician, graduate of Rush Med. College. This gentleman appeared before the Board of Examiners, paid the fee, $15, passed his examination, submitted his diploma for inspection. His reward came through the postoffice in the following lines: "We decline to issue to you a certificate of qualification." It is charged that the law was designed and is executed in the financial interests of the medical men in Texas, to enable them to get, keep and control the medical practice of the State.

Sir Jas. Paget closed his Hunterian oration with the following memorable sentence: "After having studied Hunter's life and all his defects of temper and of general culture, of social skill and of all the arts of pleasing, nothing has seemed clearer than that the power of a great intellect with a strong will and a right aim, is, in the composition of life, sufficient and irresistible; and that among all the intellects and wills I have studied, not one was stronger than John Hunter's."

Book Notices.

Any book noticed herein may be had of E. B. Smith & Co., Publishers and Booksellers, Detroit, Mich.

THE PRACTITIONER'S HANDBOOK OF TREATMENT, OR THE PRINCIPLES OF THERAPEUTICS. By Dr. J. Milner Fothergill. Cloth; pages, 575. 1877. Philadelphia: Henry C. Lea.

To a very considerable extent the conception of this book is novel. Williams' Principles of Medicine is the only work that at all resembles it. As this is out of date and out of print, the work before us is doubly welcome. What is the *rationale* of our therapeutic measures? To most physicians the intelli-

gent answer of the above question is generally difficult, and oftimes impossible. In fact, the question is too often avoided or put by with the dogmatic assertion "that my experience justifies the treatment." Such a statement is generally the end of all discussion. Its author regards his experience as the ultimatum of therapeutic knowledge. Now we grant that in the treatment of disease practical results are of the highest importance. At the same time we are firmly convinced that, other things being equal, he is the best physician who best understands how his therapeutic agents act in reaching any given result. That it is impossible at the present time to understand the action of all such agents we readily admit. But this would seem to increase our obligations to acquire and utilize all attainable knowledge respecting the action of remedies. A blind empiricism is no longer justifiable in any member of the medical profession. It is both our privilege and our duty to largely substitute knowledge for guesses, and intelligence for intuition.

The work before us is the result of a long and skilful effort to aid the profession in the performance of their duty in this respect. Each subject is introduced by a brief account of its physiology and pathology in so far as they bear upon treatment. Then in order follows the action of remedies and their practical application in concrete prescriptions.

The subjects discussed may be gathered from an enumeration of the various chapter headings, viz., Assimilation, Excretion, Body Heat and Fevers, Inflammation, Anæmia, Plethora, Congestion, Growth, Decay, Abnormal Growths, Blood Poisons, Specific Poisons, Acute and Chronic Disease, Diabetes, Rheumatism, Gout, Diatheses and Cachexiæ, Action and Inaction, the Circulatory System, the Respiratory System, the Digestive System, the Urinary System, the Reproductive System, the Cutaneous System, the Lymphatic System, the Nervous System, Public and Private Hygiene, Food in Health and Ill Health, and the Medical Man at the Bedside.

Some subjects are treated with greater fullness than others, but all contain an amount of good sense and science so combined as to amply repay the most careful study. As a literary

production the book is deficient in careful proof-reading—mistakes in spelling. Slang phrases are far more common than is creditable to the author. In the next edition we hope to see these blemishes entirely removed.

In his introduction the author emphasizes the value of copious draughts of water in connection with the administration of alkalies and iron. The excess of water not only removes the offensive taste of the medicine but it possesses a positive value itself in washing waste materials from the system. Experience enables us to endorse this suggestion as one of great practical importance.

The author believes that the liver is, first, the storehouse for all excess of sugar-starch or albumen that may find its way into the blood; and, second, that during fasting the liver gives to the blood constantly of this stored up nutriment; and third, that the bile thrown into the intestines is to a large extent superfluous matter, aiding digestion, but when in excess causing diarrhœa, and when its outflow is checked causing constipation. In the transformation of albumen in the liver, urea and other analogous compounds are produced. Accepting these views as facts the author graphically portrays their value in the interpretation of a vast variety of diseases and abnormal conditions, and in the indications they offer respecting the proper treatment of such disorders. The complex functions of the liver render certain complex diseases, even of the so called functional class. In the work before us are a thousand suggestions respecting the recognition and correction of these. No practical physician can afford to pass these suggestions without careful study.

In the consideration of assimilation stress is laid upon individual peculiarities. "There are some organisms which seem to perform a maximum of work with a minimum of waste. There are others which consume a large quantity of fuel while they leave a huge quantity of ashes, etc., and only perform a small amount of work. If these latter are to be fed so that there shall be but little ash and waste they will simply perform no work at all, they will die out." Their supplies must be liberal and the removal of their waste constant. An occasional

or persistent purgation prevents the re-absorption of bile by the intestines, and in every way promotes a higher standard of health in such individuals. Only by such wasteful processes can these organisms do their best work.

In this age of so called specialism and hair-splitting refinement in diagnosis, we deem it a healthy sign that an author shall insist on the fact that we have a human being, not a disease or particular organ, to deal with. Thus after showing the vast variations of the body in different stages of inflammation and in persons of different ages, races, sexes, or other conditions. Fothergill says: "It is of far greater importance to be able to estimate accurately the true constitutional condition of the patient than to be able to form a minute diagnosis of the precise seat, extent and depth of the local mischief. It is a fatal error, too often committed, to attach too much consequence to the recognition of the local malady and to attach too little importance to the character of the constitutional disturbance attending it. * * But if paying little attention to the local affection, except so far as its characters indicate the general type of the disease, we make the constitution of our patient our guide, and deplete or stimulate according to the state in which we find it, and thus, perhaps, treat two patients with the same disease, so far as the name is concerned, on totally opposite plans, we shall not act inconsistently, but in strict conformity with the natural condition of our patient and of his disease." We fully agree with the statement that too much emphasis can not be placed upon the power of discriminating betwixt different forms of one morbid change according to the organism in which it shows itself, and of adopting the appropriate treatment The author's views of tubercle and his peculiar use of language are both exhibited in the following quotation: "Tubercle is not a strange intruder, of foreign race and blood, amidst the mild and inoffensive cell aborigines of a viscus with grim front and lowering mien—a sort of Spanish *conquistadore* amidst inoffensive and harmless Indians—exerting a destructive and malign influence on all sides and everywhere; it is the 'ne'er-do-weel' of the tissue family, the degraded 'nought-weel' of whom

there is little hope of regeneration, who will scarcely ever be converted into anything more than a harmless tax upon its blood relations, and which more frequently becomes a source of great danger to them. Tubercle is a degraded form of connective tissue, and there are various forms of degradation—some higher, some lower—but all below the standard of health. The less degraded the type, the less unfavorable the prognosis; the more degraded, the more hopeless."

We cannot make further extracts for lack of space Omitting some features of detail, this book is one of unusual interest and value to the practical physician, especially to one just entering upon active life. In no other work of our acquaintance is there so much of suggestive help respecting practical medical problems. For the good of the profession and of humanity we trust that it may be studied by thousands of physicians the world over

L. C.

THE FUNCTIONS OF THE BRAIN. By David Ferrier, M.D., F. R. S. 1876. Cloth; pages, 323. Price, $3.50.

For several years the attention of physiological students has been specially directed towards the brain. The discovery by Fritsch and Hitzig of its electric excitability opened a new method of studying the cerebral functions. The methods of the above observers were followed and extended by numerous observers, as Ferrier, Vulpian, Schiff, Sanderson, Ogle, Nothnagel, Mitchell, Ludwig, Luys, etc. Naturally different observers reached different conclusions,

Various medical journals have published the details of individual work. The volume before us is the result of an attempt to systematize Ferrier's experiments in their bearing upon the functions of the brain. In some respects it would have been more satisfactory had he treated more in detail the work of other observers. Doubtless this was impracticable in a work of moderate compass. At all events this is the only complete treatise on the cerebral functions that attempts to utilize the latest modern discoveries.

After a brief introduction follows a sketch of the structure of the brain and spinal cord, the reflex functions of the spinal cord, the functions of the medulla oblongata, functions of the mesencephalon and cerebellum, functions of the optic lobes and corpora quadrigemina, functions of the cerebellum, function of the cerebrum, phenomena of electrical irritation of the cerebral hemispheres, the hemispheres considered physiologically, functions of the basalganglia, the hemispheres considered psychologically, diagrammatic summary, cerebral and cranial topography. Numerous illustrations serve to explain and enforce the text, and a good index facilitates a ready reference.

Nowhere have we seen a better account of the topographical anatomy of the brain, or a clearer statement of our demonstrated knowledge of its particular functions. But its special value lies in its account of the relationship of the recent experimental deductions. The localization of cerebral functions is the end sought by these experiments. All physiologists admit that certain changes are wrought in cerebral cells by the impression made upon the sensory nerves including those of the special senses. But none could tell whether there was a special group of cells set apart to receive the impressions made upon the retina, and to convert these impressions into motor impulses, calling into activity any or all parts of the body. Now the work before us attempts to show that there is a definite group of cells in the cerebrum the destruction of which is followed by total blindness. All power to think of the phenomena of vision is absolutely lost. In like manner there are centres of hearing, taste, touch, speech, general sensation, equilibration, motion of groups of muscles, limbs, etc. Galvanic irritations of the centres of motion are followed by definite movements. Destruction of these particular centres is followed by loss of the power of movement, etc. It is not claimed that in all cases these centres are perfectly defined in all respects, only that they exist. Concerning details there is much dispute, but of the general fact there is no doubt. Particular sensations we now know must pass over definite nerve fibres, through definite subordinate ganglia and commissures to defi-

nite sensory cell groups in the cortex of the cerebrum. Here they must produce definite changes in the motor cells, which changes must again pass to the periphery along definite fibres and ganglia, and produce a definite activity in the particular glands, organs or muscles with which they are connected. Of course those who delight in the vague and mystical will object to this increase of positive knowledge. Those who are lazy will grumble at the necessity of new study and more work in diagnosis, pathology and treatment. It is no longer the end of discussion to affirm that a certain person is affected with brain disease. In view of the facts before us it will be incumbent upon each to show in any particular case reasons why the disease should not be exactly localized. Referring briefly to some particular results reached we must close this notice.

The destruction of the corpora quadrigemina in animals caused blindness, paralysis of irido-motor, and some oculo-motor reactions, disorders of equilibrium and locomotion, and certain forms of emotional expression. Irritation of these ganglia caused a backward start, as if some external object had been closely approximated to the eyes, trismus, general opisthotonos, dilatation of the pupils, excitation of cries, alteration of the respiratory system and a rise in blood pressure, contractions of the stomach, intestines and bladder. In short, the phenomena of electrical irritation of the corpora quadrigemina are mainly of a reflex nature, and depend on the transferrence of irritation of sensory to motor centres and tracts. The optic tracts originating in these ganglia are homologous with the posterior roots of the spinal cord.

The maintenance of bodily equilibrium depends on the co-ordination in some central organ of certain afferent impressions with special motor adjustments. The afferent factors of this mechanism are shown to be mainly of three kinds, viz., tactile, visual, and labyrinthine impressions. Marked disturbances of equilibrium result from perversion or interference with any part of this afferent system. Experiments clearly point to the conclusion that the cerebellum is the central organ of this co-ordination. L. C.

TRANSACTIONS OF THE AMERICAN GYNÆCOLOGICAL SOCIETY. Vol. 1, 1876. Cloth; pages, 396. Boston: H. O. Houghton & Co. Price, $5.00.

For years it has been our belief that to reach the best results scientific societies must be composed of carefully selected workers in a common field, and that the numbers of each society should be limited. Societies for government need to be large but their functions are totally distinct from the scientific society. We rejoiced at the formation of the ophthalmological, otological, and neurological societies. It gives us pleasure to add to this list the American Gynæcological Society. Organized in June, 1876, it held its first meeting in Sept. 1876. Its membership is limited to sixty. The volume before us is unique in its elegance. It contains twenty-two papers in addition to the minutes of the meeting, constitution, by-laws, etc. As only twenty-eight members were present, it will be seen that nearly every one was armed with a paper. Six of the papers were on obstetrical subjects, a fact worthy of note as showing the intimate relationship between obstetrics and the diseases of women.

Dr. Robert Barnes' definition of a gynæcologist is that "he is the 'all around' practitioner, for he observes everything, beginning at the uterus." Would that we had more of such practitioners. It matters little at what organ they begin if only they go all around the patient and observe everything. It may be questioned whether, as a rule, the patient gains aught by the services of any specialist who is not an "all around" practitioner. The gynæcologists are gradually approaching the standard of Dr. Barnes, and the time is not far distant when all practitioners must do the same. The successful treatment of the diseases of any organ depends quite as much upon an ability to grasp the mechanism and relations of the entire organism as that of the particular organ affected. General practitioners must learn more special knowledge and specialists must learn more general knowledge—in fine, successful practitioners must have a similar knowledge and skill.

The annual address was by Dr. Fordyce Barker. The following is a list of the papers read: "Etiology of Uterine

Flexures with the proper mode of Treatment," Dr. Thomas Addis Emmet; "Cicatrices of the Cervix Uteri and Vagina," Dr. A. J. C. Skene; "Extirpation of the functionally active Ovaries for the remedy of otherwise Incurable Disease," Dr. Robert Battey; "On Central Rupture of the Perineum," Dr. J. Matthews Duncan; "Viburnum Prunifolium. Its Uses in the Treatment of Diseases of Women," Dr. E. W. Jenks; "An Illustration of Xenomenia," Dr. T. Parvin; "On the Relations of Pregnancy to General Pathology," Dr. Robert Barnes; "The Spontaneous and Artificial Destruction and Expulsion of Fibrous Tumors of the Uterus," Dr. W. H. Byford; Report of a case of Abdominal Pregnancy treated by Laparotomy," Dr. T. G. Thomas; "Pneumatic Self-replacement in Dislocations of Gravid and non-Gravid Uterus," Dr. H. F. Campbell; "Hydrate of Chloral in Obstetric Practice," Dr. W. L. Richardson; "Labor Complicated with Uterine Fibroids and Placenta Previd," Dr. J. R. Chadwick; "Latent Gonorrhœa with regard to its Influence on Fertility in Women," Dr. E. Nœggerrath; "On Death from Urinemia in certain cases of malignant Diseases of the Uterus," Dr. A. Wiltshire; "Clinical Memoir on some of the genital lesions of Childbirth," Dr. Wm. Goodell; "Hermaphroditism," Dr. L. Tait; Cases of Cystic Tumor of the Abdomen and Pelvis," Dr. G. H. Bixby; a case of solid Uterus Bipartitis—both Ovaries removed for the relief of Epileptic seizures ascribed to Ovarian irritation," Dr. E. R. Peaslee; "Origin and History of Calculi found in the Bladder after the cure of Vesico-Vaginal Fistula by Operation," Dr. H. F. Campbell; "Rare Forms of umbilical Hernia in the Fœtus," Dr. J. R. Chadwick.

The volume is closed with an obituary notice of Dr. Gustav Simon.

We have not space to give in detail the scope of the various papers. Those familiar with the writings of the various gentlemen as published in the medical journals only need be informed that the articles in this book are very like others already before the profession. Some are good and others are poor. That they contained little which is new is due to the fact that

all new things had been reiterated hundreds of times before. As a collection of essays the volume will be a valuable addition to any medical library.

REPORT OF THE BOARD OF HEALTH OF THE CITY AND PORT OF PHILADELPHIA FOR 1875. Paper; pages, 351.

This report is issued in the best style and is illustrated by wood cuts, tables and diagrams. Every page gives evidence of the care and industry exercised in its preparation. The authors clearly show that their chief aim was to "tell the truth, the whole truth and nothing but the truth." Those interested in the study of city hygiene will here find a valuable fund of knowledge.

The annual death rate was 22.27 per one thousand inhabitants. The board strongly recommend the removal from the city of all offensive trades and manufactures, as fat melting establishments, slaughter houses, etc. Further, at their removal all such nuisances should be separated by a defined boundary from populated districts. In short. a tract of land should be set apart for all establishments that cause offensive effluvia. The expeuse of the removal in all cases should be met by the city. The coroner returns 111 deaths as caused by heart disease, 85 by convulsions, and 66 by drowning. The entire number of inquests made was 1,074.

In births the coldest months are the most prolific and the warmest least so. Climate influences births, as might be anticipated by physiological considerations. The marriage tables show that there were fewer marriages in proportion to the population in 1875 than in any year since 1861. This decrease began during the panic of 1873, and has been increasing each year since. The same tables show that "the chances of females being married before the age of twenty years are as *one* to *five* of all the probabilities that they will ever marry. At the age of twenty years about *one-fifth* of all their chances are gone. At twenty-five about *two-thirds*, and at thirty nearly *six-sevenths* of all their probabilities are lost. After passing the age of forty

a female has a very slight chance of ever being married, *twenty-nine-thirtieths* of all her chances being lost.

At the age of twenty the chances of males being married are scarcely lessened at all. At twenty-five there are about *three-fifths* of their chances remaining. At thirty *seven-tenths* of all their chances are gone. From this period on they rapidly diminish, but in a smaller proportion than females."

Particular attention is directed to the water supply of Philadelphia. Its present defects are pointed out and methods suggested for their removal,

MYELITIS OF THE ANTERIOR HORNS, OR SPINAL PARALYSIS OF THE ADULT AND CHILD. By E. C. Seguin, M.D. Cloth, pages, 120. 1877. New York: G. P. Putnam's Sons.

This work is founded upon forty-five well observed cases. Evidently the author has exhausted his own case books and the published records of other observers. He opens with a recital of the historical facts relating to this disease. Then after giving the cases in detail he proceeds to analyze and combine them. The pathology, diagnosis, prognosis and treatment are next fully discussed. He shows that "this disease is common to all ages, and that it is characterized by atrophic paralysis of one or more limbs, rarely of other parts, loss of faradic reaction and diminution or loss of galvanic reaction in the paralyzed muscles, by remarkable freedom from anæsthesia and retention of urine and absence of bed sores, and by temporary numbness and referred pains.

The *course* of the disease in children is nearly always acute; in about fifty per cent. of cases acute and febrile. In adults it runs an acute febrile, an acute non-febrile or a chronic course. The last named type of the disease is rare, excessively so in children. In adults and children the *lesion* of the spinal cord consists in myelitis of the anterior horns with atrophy (through granular degeneration) of the ganglion cells of this part. The motor cells constituting the trophic centre of nerve trunks are destroyed, and the resulting atrophic paralysis greatly resembles that of peripheral paralysis.

The *causes* of myelitis of the anterior horns are: predisposing, age and sex. In childhood the two sexes are about equally liable to the disease, and are more frequently attacked when from one to four years of age. Adult males are much more often affected than women; and the best years of life, twenty to thirty-five years, are those during which the disease occurs. Exciting causes—The only one definitely known is the impression of cold.

The *treatment* consists in the heroic use of antiphlogistic means, such as counter-irritation to the spinal region, the internal administration of ergot, belladonna, iodide of potassium during the acute and sub-acute stages of the disease, and of the judicious use of galvanism, faradesin, massage, douches, tonic and supporting treatment, and orthopœdic apparatus during the stage of residual atrophy.

The *prognosis* is very good as regards life, but unfavorable with respect to function of paralyzed parts; very few patients recover perfectly from myelitis of the anterior horns."

The work is worthy the most careful study of every student of spinal diseases. Its mechanical appearance is in every respect creditable to the publishers.

CIVIL MALPRACTICE. A Treatise on Surgical Jurisprudence, with Chapters on Skill in Diagnosis and Treatment, Prognosis in Fractures, and on Negligence. By Milo A. McClelland, M.D. Cloth; pages, 554. 1877. Boston: H. O. Houghton & Co.

This work is composed of reports of malpractice cases, carefully selected and detailed. It contains the materials for a treatise on civil malpractice, but it is not in any sense such a treatise. We are sorry that the author did not digest his material and give it to us in a better and more enduring form. Perhaps he may do so at a future time. The mechanical execution of the book is all that could be desired.

L. C.

ATLAS OF SKIN DISEASES. By Louis A. Duhring, M.D. Part II. 1877. Philadelphia. Price, $2.50.

This atlas is being issued quarterly, and is intended to accurately delineate the characteristic features of skin diseases in America The specimen before us is even more satisfactory than Part I, which we noticed last August. It contains four chromo-lithographs accompanied by the appropriate letter text. The subjects thus treated are, acne rosacea, icthyosis (simplex), tinea versicolor, sycosis non parasitica. The author has been specially successful in transferring to paper the distinctive features of these particular skin affections. The accompanying text well describes the clinical history of the particular case and the exact treatment. Every general practitioner will be delighted to place this atlas in his library.

THE MORTALITY OF SURGICAL OPERATIONS IN THE UPPER LAKE STATES COMPARED WITH THAT OF OTHER REGIONS. By Edmund Andrews, A.M., M.D. Paper, pages, 123.

Dr. Andrews merits the lasting gratitude of the profession for the ability and industry exercised in the preparation of this little work. Hitherto it has been difficult to ascertain the mortality of the different operations, but with these tables before us the question of mortality respecting any particular operation is readily answered. Further, a careful compilation is made of reliable cases from the practice of reliable surgeons in the upper lake states. L. C.

EXCISION OF THE LARGER JOINTS OF THE EXTREMITIES. Prize Essay of American Medical Association. By H. Culbertson, M.D. Cloth, pages, 672.

This work is a monument of persistent well directed labor. The histories of nearly four thousand cases were collected and their careful analysis here presented. From these analyses conclusions are drawn and each reader, from the published data, can judge of their correctness Fifteen plates accompany the work, and by their aptness and accuracy enhance its value. No surgeon's library can be complete without this work.

L. C.

GENERAL INDEX TO THE NEW YORK MEDICAL JOURNAL, FROM 1865 TO JAN. 1876. By Jas. B. Hunter, M.D. Cloth; pages, 144. New York: D. Appleton & Co.

This is very carefully prepared, and will be of great service to those having access to files of this journal.

Meteorological Report of Detroit for May, 1877.

BY C. HENRI LEONARD, M.D., OBSERVER FOR STATE BOARD OF HEALTH.

BAROMETER. — Highest, 30.360; lowest, 29.552; range, 0.808; daily average, 30.001. The daily average is higher than for any preceding May.

TEMPERATURE.—Highest, 86; this was on the 18th; (It should be remembered that this is the temperature of the air some 100 feet above the pavement; add from 8 to 10 degrees for street temperature. The increase is due to the pavement rays, and the confinement of the air by building-blocks). lowest, 32; this was on the 2d; average, 57.7; range, 54. This has been about the usual mean registration in years past, and a fraction of a degree higher than the average of the Mays before. The temperature has been higher, and also lower, in preceding Mays than the maximum and minimum registration this month. Hence this has been what you might reasonably call, in this respect, a typical May.

WINDS.—Prevailing direction, south-west (10 days S. W.); greatest velocity, 20 miles per hour. Total number of miles traveled, 4,256. The day of least wind travel was the 3d; but 29 miles were made that day and night. It has been an unusually calm month. The usual wind travel is at least *one-fourth greater.* At four observations there were perfect calms.

CLOUDS.—No. of clear days, 12; cloudy, 3; rainy, 8; fair, 16. An unusually *clear* (fair) month. Our usual number of rainy days is up in the "teens." Last May we had 20 rainy days.

RAINFALL.—As a natural consequence of the excessive "fairness" of the month, the rainfall must be less than usual. The total amount of precipitation was *less* than one inch; the registration was nine-tenths of an inch. The usual monthly precipitation is in the neighborhood of five inches; hence an unusually dry month. In '72 there was a total precipitation of 5.64 inches; in '73, 3.50 inches; in '74, 1.93 inches; in '75, 5.83 inches; in 76, 5 62 inches.

MOISTURE.—The highest absolute humidity was seen at the evening observation of the 18th; there were then 7.44 grains present. This coincides with the day of highest temperature, but not with the hour of highest temperature. The temperature of the 2 P. M. observations of this day and the day following was some *ten degrees* higher than the temperature of the observation that coincided with this high humidity. The relative humidity was 81 per cent. at this observation. At four other observations the relative humidity was higher than at this one, and at seven other observations the temperature was higher than at the one giving this high absolute humidity, and hence it cannot properly be regarded as an exception to the rule that the highest absolute humidity does not necessarily correspond to the time of highest temperature.

OZONE—Was present in very small amounts this month. On the 4th and 25th it was present in the largest quantities. Discoloration to one was noticed after a 24-hour exposure of the paper on these dates.

LUNAR HALOS—Were observed on the 15th and 21st inst., though not well marked in either case.

We had a very noteworthy auroral display this month. I copy the report of Sergt. Van Heusen, of the U. S. Signal Service:

When first observed, at 8.30 P. M., the atmosphere at the time being quite hazy, the northern sky presented an appearance similar to that caused by the reflection of a bright light upon clouds of light, thin smoke. Gradually this light became more brilliant and extended to an altitude of about 45 degrees. At 8.45 P. M., a second arch of light, about two degrees in

breadth, made its appearance about 20 degrees above the lower arch. At 8.50 P. M. a third arch of light was formed, of about the same breadth as the second, the centre of which was immediately at the zenith. At 9.10 P. M. slender luminous beams were observed to dart upward from the horizon, extending to a height of 60 degrees. Some of these were pale yellow in color, others were crimson, and being pointed and having a waving motion, they greatly resembled the flames of alcohol burning upon a flat surface. These beams continued to grow more and more brilliant and greater in number until 9.30 P. M., when a complete corona, or glory, was formed. At this time the spectacle was a most magnificent one. From the east to the west, from the northern horizon to a point ten degrees south of the zenith, the sky was one mass of quivering flame, in which all the colors of the rainbow seemed blended. The forms in which the rays of light arranged themselves were varied and beautiful, the most striking of which were irregular and sinuous bands and curvatures, presenting the appearance of the undulations of a ribbon, or flag, waving in the breeze. At times these bands would unite, and present the appearance of a brilliant, fringed curtain, whose folds were agitated by the wind. These folds were numerous and complex, enveloping each other and presenting an immense variety of the most graceful curves. After the formation of the corona, tremulous waves, or flashes, of light, following each other in rapid succession, rolled upward toward the zenith and traveled along the lines of the auroral arches. The southern sky was of almost inky blackness, which seemingly increasing the brilliancy of the stars, added to the grandeur and magnificence of the scene. At 9.45 P. M. the corona commenced to fade and break up, the slender beams of light seeming to be withdrawn to the horizon, leaving the three arches, as they were first observed, only much less brilliant. These broke into segments resembling illuminated clouds. At 10.10 P. M. the aurora had entirely disappeared. This aurora was generally observed throughout the entire northern portion of the United States, and its unusual splendor was the cause of much admiration and remark.

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DANIEL LAFERTE, M. D.,
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The Collegiate Year is divided into three sessions.

PRELIMINARY SESSION opens Wednesday, September 5th, 1877, and continues one month. The Clinics are held and the Lectures delivered by the Professors of the regular Faculty, and in the same order and frequency as during the Winter Term. Opportunity is given to dissect or work in the Chemical and Physiological Laboratories.

The REGULAR SESSION opens Wednesday, October 3d, 1877, and continues five months. During this term all the branches of *General Medicine* and *Surgery*, both scientific and practical, are taught with care and thoroughness. All students are daily examined on the subjects of the lectures and on their dissecting and laboratory work.

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The RECITATION SESSION begins second Wednesday in March, 1878, and continues four months. Daily during this term there will be held a lecture, recitation, and one or two clinics. The lectures will be upon special subjects of medical or surgical interest.

The recitations will embrace the general subjects of the Regular Session, viz., Anatomy, Surgery, Midwifery, Diseases of Women, Physiology, Practice of Medicine, Materia Medica and Chemistry.

Though the Recitation and Preliminary Sessions are optional, it is hoped that all who can will avail themselves of their manifest advantages in supplementing the regular winter course.

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FEES.—For Preliminary and Regular Sessions: Matriculation $5. Hospital Fees (good for one year), $10. Lecture Fees, $40. Graduation, $25. Lecture fees to third course students. $25.

For the Recitation Term the Lecture fees are $10, to those who attend the other courses. All others are required to matriculate and take out the Hospital tickets.

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